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THE ROLE OF NATIONAL DEVELOPMENT FINANCE INSTITUTIONS IN OIC COUNTRIES IN PROMOTING INDUSTRIAL INVESTMENT, INCLUDING JOINT VENTURES, AND WAYS AND MEANS OF STRENGTHENING CO-OPERATION AMONG THEM*

Prepared by the

Investment Co-operative Programme Branch

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PREFACE

At the third meeting of the Task Force of the First Conference of the Islamic Countries' Ministers of Industries (April 1984 in Istanbul) it was agreed that UNIDO would prepare some working papers for the second OIC Ministerial Conference on Industrial Co-operation to be held 13-16 November 1984 in Ankara, Turkey.

The working paper presented here is part of UNIDO's input for this Ministerial Conference. The subject is one of considerable concern to the Investment Co-operative Programme Branch, which is conscious of the leading role that is being played by national development finance institutions in promoting industrial development in developing countries. The Branch has already issued a four-volume catalogue of resources for development finance published by UNIDO under the title of Financial Resources for Industrial Projects in Developing Countries.

The present working paper makes extensive use of UNIDO in-house information and of the knowledge and experience of staff members. It is hoped that it will be helpful as background information for the discussions at the Ministerial Conference, and that it may contribute to new concepts or improvements in existing approaches relating to policy support measures in favour of national development finance institutions in member countries of the Organization of the Islamic Conference.

INTRODUCTION

The working paper presented here considers the role of national development finance institutions (NDFIs) in the industrial development of countries which are members of the Organization of the Islamic Conference. Chapter 1 offers some comments on the economic problems of developing countries in general and the OIC countries in particular. In Chapter 2 the paper describes the common characteristics of NDFIs, while Chapter 3 discusses aspects of how these bodies operate, what contribution they have made to industrial development in the OIC countries thus far, and the extent to which this contribution is satisfactory, measured in terms of the progress towards industrialization that has been achieved by these countries in recent decades.

Chapter 4 deals with the deterioriation in the financial strength of many NDFIs and the reasons for this deterioration, suggesting that while it may be due in part to factors outside the control of the institutions themselves, it may also be partially the result of NDFIs' inability to adapt their policies and practices to the changing conditions of the financial and commercial environment in which they operate.

In Chapter 5 some conclusions are drawn and ways of improving the efficacy of NDFIs are presented. In particular, the paper describes a proposal to draw on the technical resources of UNIDO for the purpose of implementing a programme aimed at promoting joint ventures between entrepreneurs in different OIC member countries. The programme would aim at bringing about intensive co-operation in a selected industrial branch between OIC countries which have reached a more advanced stage of technical and commercial development and those which are still at the initial stages of developing the same branch.

1. A Brief Review of Economic Conditions in OIC Member Countries.

The Organization of the Islamic Conference currently has a membership of 45 developing countries of which 20 are classified as Least Developed Countries. There exist wide disparities between the member countries as regards land area, population, natural resources and per capita income, which in 1981 was US$ 107 (at 1975 prices) in the poorest member state, as compared to US$ 9,651 in the wealthiest one.

The countries of the OIC are confronted by the same problems as other countries in the developing world: the continuing recession and anti-inflationary policies in the developed countries which have brought about a fall in demand for Third World country exports leading to a worsening of their balance of payments position; and the sharp appreciation of the US dollar, combined with high interest rates, which has substantially increased the cost of servicing the large external debts with which they are burdened. Even the oil-exporting countries are suffering severe setbacks in consequence of the fall in the price of oil resulting from fuel economy measures and under-utilization of productive capacities in the major industrialized states. Thus from 1981 to 1982 the number of OIC member states with widening trade deficits increased from 10 to 17 (including some oil-exporting countries), while those with improving trade balances decreased from 10 to 4. The worsening economic situation was also reflected in inflation rates: the number of those with inflation below 10% p.a. dropped from 8 to 6, while those with inflation of 20% to 35% increased from 4 to 7[2]. In addition, some OIC countries, e.g. those in the Sahel zone, have special problems resulting from drought and food shortages.

As a result of these difficulties, most OIC countries have been obliged to introduce anti-inflationary, austerity budgets, inevitably with adverse effects on a level of employment which is already far from satisfactory.

1.1 The State of Industrial Development in the OIC Member States

In the group of OIC member countries which may be classed as low-income (less than US$ 300 per capita), industrial development is still in its infancy and the bulk of exports are accounted for by primary agricultural products.

In the middle-income group (US$ 300 - 1,000 per capita) the industrial sector already accounts for a sizeable share of GDP, while the share of agriculture has been correspondingly reduced. However, the implementation of national industrial development programmes is beset by numerous difficulties: low rates of domestic capital formation, lack of qualified personnel, stagnating export revenues, heavy dependence on imported raw materials and semi-finished products; the absence of a clearly formulated national industrial development plan establishing priority sectors and branches compatible with natural resources and endowment.

The oil-exporting countries' main problem is their total dependence on revenues from this one commodity and the corresponding vulnerability of their national economies to fluctuations in the world price of oil.

In order to overcome these difficulties and raise the living standards of their peoples, the OIC member countries have formulated a number of "development objectives", which may be summarized as follows:

- reduce dependence on imported goods and technology
- increase employment opportunities
- strive for balanced regional development
- promote a more equitable distribution of income
- increase the share of the industrial sector in GDP.

Clearly, the attainment of the last objective may be regarded as the key to the others, and it is in achieving this goal that national and supranational National Development Finance Institutions (NDFIs) in OIC countries will be called upon to play a critical role. It is therefore useful to examine in detail the contribution that these institutions have made to industrial development hitherto, consider whether their performance has been adequate to the tasks set them and

formulate ways of enhancing and expanding the scope of their activities so that they may be better equipped to help find solutions for the problems now confronting OIC member states.

2. National Development Finance Institutions - a Descriptive Analysis

2.1 The Emergence of National Development Finance Institutions

The concept of the NDFI arose in the post World War II period when many nations, and particularly those emerging from the colonial era, were confronted with the inability of the traditional commercial banking system to tackle the problems of development within a national planning framework. The preoccupation of commercial banks with the security of their deposits, their unwillingness to grant medium or long-term loans or to contribute to their clients' equity financing, and their inability to evaluate and appraise complex new commercial and industrial ventures, made them an unsuitable vehicle for:

- the implementation of large-scale investment projects with a long gestation period aimed at achieving a structural transformation of the economy; and

- financial assistance to new entrepreneurs in the creation of small and medium-scale industries, which are of particular importance to developing countries because of their high employment creation effect.

It was also apparent that the commercial banking system in these countries was not meeting with success in mobilizing to the fullest extent the resources available from small domestic savers for investment in industrial projects.

These considerations led to the creation of a new type of financial institution which, while continuing to carry out some of the functions of the commercial banks, set itself the objective of contributing to national economic development and particularly to industrialization by supporting projects having a high economic rate of return at the national level, as well as satisfactory profitability at the microeconomic level.

Thus in making resource allocation decisions an NDFI will not only be guided by considerations of return on investment, but will also take account of such features as the creation of jobs and potential export earnings. It is this concern with macroeconomic considerations and a commitment to helping implement Government policies in the sphere of employment, encouragement of indigenous entrepreneurship, import substitution, increased exports and balanced regional development that distinguishes NDFIs from conventional banking institutions and has made them an indispensible instrument of development policy.

2.2 NDFIs' Mode of Operation

As regards the day-to-day details of their mode of operation and the range of services they provide, NDFIs differ markedly from one country to another. The following summary is intended to be illustrative rather than exhaustive:

a) NDFIs mobilize financial resources from both domestic and foreign sources. They may issue bonds in the domestic and international markets and obtain loans from international financial institutions and development agencies. NDFIs act as intermediaries between international development finance institutions such as the World Bank, the International Finance Corporation, the Asian Development Bank, the Islamic Development Bank (IsDB), the Arab funds and the African Development Bank on the one hand, and local project promoters on the other, thereby being able to offer medium and long term foreign currency loans for the acquisition of plant and know-how, both from the developed and the more advanced developing countries. Thus up to June 1983 the World Bank group alone provided some US$ 11.2 billion in loans to a total of 137 NDFIs in developing countries.

b) NDFIs provide medium and long term loans for industrial investment projects which they consider compatible with the country's development strategy. In recent years, some NDFIs have also begun to lend the working capital requirement of the projects they finance. Thus the Development Bank of Indonesia (BAPINDO) grants short-term working capital loans, but only to borrowers of its investment loans. BAPINDO has also been granting investment and permanent working capital loans to small-scale industries since 1973.

c) Unlike commercial banks, NDFIs will take an equity share in a project the promoters of which are unable to raise the necessary equity from their own resources.

d) Project evaluation and appraisal by NDFI specialist staff to ensure technical, commercial and financial viability is essential before a loan can be granted. At this stage the NDFI may insist on modifications to the project or additional analyses by the promoters.

e) In the initial stages of a project NDFIs usually monitor its progress closely to prevent or minimize cost overruns and delays in commencing income-producing activities. This monitoring may extend to regular reviews of inventory levels, collections of receivables and liquidity to ensure that early warning is given of any impending problems. The need for such monitoring is dictated by the fact that the NDFI does not have full security for its loan or equity participation, and will accordingly suffer a loss if the project fails, not to mention the adverse macroeconomic consequences of such failure for employment and industrial output.

f) In some developing countries there is a lack of indigenous entrepreneurs and accordingly of project proposals. In these circumstances the NDFIs may then prepare sectoral surveys of industrial activity in order to identify areas where opportunities exist, establish enterprises and even recruit and train potential entrepreneurs to run them. In the initial stages, the prospective entrepreneur may have the status of an employee of the NDFI, but when the business is firmly established, the NDFI will convert part or all of its equity into a loan, to be repaid by the entrepreneur out of his business profits.

This approach is far from widespread, but may become more frequent as NDFIs pursue their search for innovative ways of achieving their goals. It has the great advantage that the NDFI retains a much greater degree of control over the business and is less vulnerable to the activities of unscrupulous partners striving to siphon off the resources of the project provided by the NDFI and then liquidate or abandon it.

g) In the case of projects too large for a given NDFI to finance, it may organize a consortium with similar institutions located at home or abroad. It may also endeavour to attract funds from private investors.

h) NDFIs provide on-going assistance to their clients in such areas as

choice of technology

marketing strategies

accessing government incentive schemes

management techniques

financial planning and reporting.

The activities of NDFIs contribute to the formation of domestic capital markets: they sell their own securities to the public and provide guarantees for the securities of the enterprises financed by them. Many NDFIs have adopted a policy of selling their equity holding in "mature" investments, as a means of obtaining funds for new projects, thereby assisting in the creation of a local securities market.

A type of NDFI activity which has been taking on increasing importance as a manifestation of developing countries' endeavours to gain economic independence from the industrialized countries is the promotion of joint ventures between entrepreneurs in two or more developing countries. By means of pooled resources, joint ventures make it possible to implement projects which are beyond the means of a single country, and which require the markets of more than one country to make them viable.

3. The Place and Role of NDFIs in OIC Member Countries' Economic Development

3.1 The Resource Base of NDFIs

There are over 90 NDFIs, including 30 institutions adhering to Islamic banking principles, with total resources (paid-up capital and reserves) amounting to

the equivalent of some three billion US dollars operating in the member countries of the OIC today. There are also nine Islamic financial institutions located in developing countries not adhering to the OIC and 10 Islamic financial institutions located in industrialized countries (see annexes 1-3). In some countries, e.g. Pakistan, Iran and the Sudan, the entire banking system is reported to have been islamicized. The differences in the capital resources of these institutions and the number of projects they process annually reflect the disparities in the countries themselves. Thus while some institutions finalized fewer than 10 projects in 1981, others were involved in the implementation of more than 500. One of these institutions has capital and reserves amounting to more than $1 billion, for others the corresponding figure is less than $1 million.

Over the past decades, however, NDFIs have played an important role in the industrialization process of OIC member countries. They have been the main source of medium and long term capital for new industrial projects and, thanks to their intermediary role, have made it possible for vast amounts of foreign currency funds to be channelled to national enterprises in OIC member states from such supranational funding agencies as the Arab funds, the Islamic Development Bank, the OPEC Fund for International Development and the World Bank. Thus in 1981-82 alone, the IsDB provided some US$ 23 million in lines of equity to 4 NDFIs in OIC member countries to enable them to participate in the equity of viable projects. This raised the total lines of equity granted by the bank to 15 NDFIs in 14 member countries to US$ 101 million.

With regard to project financing for NDFIs in Islamic countries, the Islamic Development Bank is the most active development finance institution. Other institutions which have extended financing to NDFIs in OIC member states include the Arab Bank for Economic Development in Africa, the Kuwait Fund for Arab Economic Development and the Opec Fund for International Development. These latter institutions extended, up to the end of 1982, lines of credit amounting to three, 90 and 50 million US dollars respectively.

The World Bank has emphasized that NDFIs are usually among the first financial institutions in developing countries to use comprehensive project evaluation techniques consistent with those used by the Bank Group, which makes them an important instrument in promoting efficient allocation of resources to

industry. Some NDFIs finance not only private but also public sector investments, applying more rigorous and more commercial appraisal and profitability criteria than, for example, government departments. Thanks to their ability to mobilize resources from the private and foreign sources, they help reduce demands on government budgetary support.[3]

3.2 NDFIs' Contribution to Industrial Development

But the contribution of NDFIs to industrial development has by no means been restricted to raising funds and granting loans or engaging in equity participations. These institutions have also assisted their clients by:

- extending technical and management assistance;
- promoting joint ventures between local and foreign investors;
- contributing to balanced sectoral and regional development by selectivity in funding decisions;
- preparing sectoral, feasibility and market studies;
- supporting small-scale industries through the establishment of co-operatives;
- encouraging the emergence of local markets for stocks and shares;
- providing consulting services on legal and fiscal matters to client enterprises;
- advising clients on how to obtain government approvals and take advantage of incentive schemes;
- giving training in entrepreneurship;
- providing advice on technical and financial matters.

In spite of the scope of their activities, the impact of NDFIs on industrial development has not been as great as might have been hoped. In particular, it does not appear that NDFIs have benefitted small and medium-scale industries to the extent that the their potential contribution to employment creation and national wealth would require.

It is well-known that the employment creation effect of small and medium-scale industries (SMIs) per unit of investment cost is disproportionately greater than that of large scale industry, because of the

capital intensity of the latter category resulting in a lower ratio of labour to total output, so that NDFIs should be urged to concentrate more attention on helping SMIs in areas such as:

> assistance with project formulation and preparation; assistance in selecting appropriate market segments and devising marketing strategies; training in basic managerial skills: maintaining correct double entry financial records; preparing periodic (monthly) management accounts; monitoring inventory levels, liquidity, and collection of receivables; fundamentals of human resource management and improving technical skills.

The problem appears to be that SMIs are rarely able to formulate industrial projects to the standards required by NDFIs, and particularly those which are government owned. SMIs have in many cases developed out of cottage industries started by persons with training as artisans who are unfamiliar with project preparation techniques, computation of pre-investment expenses, working capital, etc. although by no means devoid of entrepreneurial flair.

It is therefore to be expected that very few NDFIs list the encouragement of SMIs among their objectives. This is an area where a review of policy is required, particularly in view of the substantial contribution to industrial output that SMIs have made in the industrialized countries.

Thus by 1980 there were still only eight member countries of the OIC in which manufacturing accounted for more than 15% of GDP[4], and the dependence on the industrial centres of the West both for the supply of plant and machinery and as a market for their exports was still a striking feature of their economies: more than 80% of member countries' foreign trade is with the industrialized nations[5].

These historical trading links with the industrialized West have tended to hamper closer economic ties between OIC member countries, although recent years have seen a growing awareness of the advantages that economic co-operation would bring in two major dimensions:

- by creating a larger market for industrial goods produced in these countries, thereby reducing production costs and making possible the adoption of technology sufficiently advanced to compete with imports; and

- by establishing joint ventures which will benefit from economies of scale to produce competitive products for a larger international market in addition to the markets of member countries.

The removal of obstacles to trade between member countries is accordingly one of the priorities for discussion by representatives of OIC member states on the occasion of future deliberations.

Some progress has already been achieved: the Task Force on joint ventures in OIC member countries established by the OIC's First Ministerial Consultation on Industrial Co-operation is already investigating ways in which joint ventures can be encouraged and obstacles to their creation removed or mitigated; as of mid-1984 the Agreement for Promotion, Protection and Guarantee of Investments among Member States of the OIC is only three ratifications away from attaining binding force on all members (7 out of 10).

At present there is a dearth of information on aspects of the operations of individual NDFIs in OIC countries, e.g. what proportion of their operations are directed towards SMIs, and what proportion benefits large scale industries; this constitutes an obstacle to a more precise evaluation of their role in industrial development. However, discussions are underway on the desirability of creating a regional association of NDFIs for the OIC countries on the lines of associations already existing in Africa and Latin America, which might increase the flow of information about these institutions.

Initial steps towards the establishment of such an organization were taken by the NDFIs in member countries of the IsDB at their most recent annual conference, held in Jeddah in March 1983, when they set up a Technical Working Group consisting of the Industrial Development Bank of Turkey and the IsDB. The Technical Working Group has to date collected information on the existing regional associations of development finance institutions in Latin America, Africa, Asia and the Pacific and on the World Federation of DFIs, and has

prepared a draft constitution which was circulated to the participants in the Jeddah meeting of Islamic NDFIs.

4. Problems Currently Facing NDFIs in OIC Member Countries

4.1 Resource Mobilization

Resource mobilization is one of the most serious problems with which NDFIs are currently confronted. The problem is three-fold:

low levels of personal income in LDCs are a serious obstacle to the creation of domestic savings, which should be one of the principal sources of funding for NDFIs; and furthermore there is competition for such savings from the commercial banks; thus at the present time many NDFIs are able to tap only a small proportion of the resources generated by their countries' national economy;

financial resources originating from foreign borrowings are subject to the high interest rates currently found on world capital markets and bear the risk of exchange losses where the currency in which the loan is denominated (e.g. the US dollar) appreciates against the local currency. NDFIs normally pass this risk on to their clients who are however rarely in a position to bear the additional and unpredictable burden of having to repay substantially more than was originally borrowed;

the sharp increase in official indebtedness of many OIC countries means that official sources of funding for NDFI operations are less readily available.

4.2 Effects of Inflation on Operations of NDFIs

The persistent inflation which has afflicted the developing countries over the past decade (over 30% in 1980-81) has inevitably affected the operations of NDFIs, not only by eroding their equity and reducing their lending margins, but also by causing unforeseen increases in the cost of projects financed by them and consequently aggravating the repayment problem and creating additional elements of risk.

The high interest rates obtaining in many member countries as a result of such inflation have aggravated the resource mobilization problems of NDFIs. When NDFIs pass on such high interest rates to their clients they constitute an added financial burden for new industrial projects at a time when they are most vulnerable; where interest is charged below market rates, this effectively means a subsidy by the NDFI or government and may result in non-optimal resource allocation.

4.3 Lack of Access to Foreign Capital Markets

Owing to severe shortage of convertible currencies and correspondingly stringent foreign exchange regulations, NDFIs in some OIC member countries have no or restricted access to foreign capital markets. Thus they are unable to mobilize resources through co-operation and co-financing operations with international financial institutions. Even where limited access is possible, the lack of personnel experienced in international financial operations, shortcomings in the telecommunications system, and capricious swings in government foreign exchange policy have prevented them from operating effectively in external capital markets.

4.4 Shortage of Qualified Staff

NDFIs can only be as good as the technical and professional staff they are able to recruit to assist their clients in project preparation and appraisal, and in monitoring and providing consultancy services to on-going enterprises. However, the present level of salaries paid by NDFIs, and particularly by the State-owned ones, appears to be insufficient to attract staff of the calibre required by the complexity of the tasks which NDFIs are faced.

4.5 Quantity and Quality of Projects Submitted for Financing

In some countries, the bottleneck is to be found not in resource mobilization, but in the lack of adequately formulated projects. This is because, owing to the traditional predominance of agriculture in the national economy, a class of commercial entrepreneurs able to set up and run manufacturing operations is only now beginning to emerge.

When projects are submitted to NDFIs by prospective entrepreneurs, they are frequently poorly prepared so that the full set of data required for assessing

the project's chances of success is not available. This increases the demands on the NDFI's staff and is likely to lead to problems during implementation - e.g. the total project cost, and in particular the working capital requirement, may have been underestimated.

Unrealistic deadlines for project completion may result in delays in implementation with resulting cost overruns. These in turn affect profitability and may lead to insolvency, thereby further eroding the NDFI's resource base; the marketing arrangements and channels of distribution may not have been properly researched; the strength of the competition, particularly from established transnational corporations, may have been underestimated; the problems of breaking into export markets may not have been properly understood; credit control may be inadequate, rapidly leading to a shortage of liquid funds.

4.6 Unwillingness of NDFIs to Provide Working Capital Requirements

The majority of NDFIs in OIC member countries provide only the medium and long term finance requirements of project financing, leaving project sponsors to borrow their working capital requirements from the commercial banks. Owing to the higher interest rates charged by these institutions the cost of working capital will accordingly be disproportionately burdensome, and so sponsors may be tempted to understate the working capital required for the initial stages of implementation, thereby risking a liquidity crisis; and furthermore the higher rates of interest paid will tend further to erode liquidity, increase the cost of implementation and accordingly the risk of failure and loss to the NDFI.

4.7 Inability to Compete with the Commercial Banking Sector

In spite of usually being able to offer cheaper lending rates, NDFIs are not always able to compete effectively with commercial banks. Shortages of funds, complex formalities and long approval periods discourage project promoters who then obtain higher cost funding from the commercial banks which are able to respond more rapidly. They may discover too late that such institutions are far less tolerant than NDFIs when repayments problems arise. Project failures with their adverse effects on industrial development may occur as a consequence.

4.8 Exogenous Factors: World Recession and Reduced Economic Growth

The deterioration in the financial performance of many NDFIs reflects the increasing financial distress of the industrial sector in developing countries as a group due to the severity of world recession, adverse movements in these countries' terms of trade, lower demand for their manufactured goods and reduced exports. Thus the World Bank estimates 1982 GDP growth for all low and middle income developing countries at 1.9% compared with an average of 5.1% for 1973-79. As a result, the developing countries were forced to adopt stabilization measures to reduce domestic demand which cut into coporate earnings. Financial distress in the corporate sector led in its turn to a high incidence of defaulting on debt repayment of which NDFIs were afflicted with their share.

There are however also problems which cannot be blamed on exogenous factors. In the words of an unpublished report by a leading international financing institution:-

> "DFCs need to to change their traditional emphasis on promoting new investments and instead assign higher priority to supervising and strengthening their portfolio, and to helping their clients meet their working capital needs...a concerted effort is needed by DFCs to improve their managerial capabilities, and the information and control systems.
>
> Over the longer period, most DFCs, irrespective of their current situation, would need to diversify their operations and financial resources, as some successful DFCs such as ICICI: India and KLTB: Korea have already done, to respond to changing business and economic environments and to improve profitability."

One of the ways in which NDFIs can both provide additional help to their clients, and supervise and strengthen their portfolio, while at the same time keeping themselves better informed about their clients' day to day operations is by not only offering working capital loans, but by insisting that working capital is borrowed from them and that the main operating accounts are maintained at the NDFI.

By monitoring the transactions on the operating accounts the NDFI can glean useful information about the state of the clients' business: the speed with which working capital is turned over, and the trend of net current assets. A steady fall in net current assets is a sure sign of danger which the NDFI should discuss with the client as soon as it is observed. Since clients' ability to repay long and medium term borrowing is a function of their success in maintaining or raising levels of working capital, this aspect of their business is one which the NDFI cannot afford to ignore.

5. Conclusions and Recommendations

5.1 Introductory Remarks

While NDFIs in OIC member countries have made a substantial contribution to the industrial development of these countries, in recent years the effectiveness of many of them has been restricted not only by shortcomings in their internal structure and policies such as inadequate project appraisal and monitoring, but also by factors over which they have little control, such as inflation, recession, shortages of convertible currency and a rapidly increasing burden of debt in the public sector. The ultimate yardstick of their success is the extent to which these countries have managed to develop their industrial sectors, and here it must be said that a great deal remains to be done: in 1981 the percentage of the labour force employed in manufacturing was less than 5% of the total in all but two of the OIC member states.[6]

Without underestimating the need for structural and organizational improvements within the NDFIs themselves - better qualified staff, a wider range of financial services offered to clients, improved techniques of project identification, preparation and appraisal, more careful monitoring of project implementation and enhanced skills in dealing with ailing projects - the principal problems lie in the

- mobilization of substantial additional resources;
- concentration of such resources on promising branches of industry, and particularly SMIs;

- identification of viable projects in these branches backed by competent sponsors.

It is above all in these areas that NDFIs must concentrate their efforts if they are to continue their constructive role in the industrial development of the nations they were founded to serve.

5.2 Measures to Improve the Operating Efficacy of NDFIs

As already observed, NDFIs in OIC member countries show wide disparities in the amount of their resources and the policies and practices under which they operate. The suggestions for ways of increasing the efficacy of NDFIs enumerated below are not therefore relevant to all NDFIs, but are intended to give a range of options from which those relevant to a particular case may be selected for further analysis:

a) Improve the domestic funding base of NDFIs by:

granting government or central bank guarantees for bonds issued by NDFIs to make them acceptable to commercial banks, insurance companies, etc.;

providing official rediscounting facilities for loans by NDFIs which would enable them to generate liquidity for new projects from their existing portfolios;

exempting interest on bonds issued by NDFIs from income tax, not only to make these bonds more attractive, but to contribute to the formation of a domestic securities market;

b) extend the scope of NDFI services to cover loans of working capital;

c) encourage co-operation as an alternative to competition between NDFIs and commercial banks with the aim of an exchange of information on the financial condition of the clients they serve in common, to the benefit of both types of institution;

d) avoid long-term borrowing under inflationary conditions when interest rates are high, but rather borrow short to medium-term, and apply variable interest rates to their loans;

e) empower NDFIs to grant loans on "soft" terms for

export-oriented industries;

manufacture of import substitutes;

modernization of plant and machinery.

f) NDFIs should be authorized to accept, discount or rediscount commercial bills. This could contribute to increased sales by local manufacturers of capital goods who would then be able to offer their customers payment by instalments: the bill relating to each instalment could immediately be discounted by the manufacturer with the NDFI. The measure would also encourage both new and existing enterprises to invest in modern plant and technology.

g) promote balanced regional development by granting loans on concessionary terms to projects in remote or backward areas. However, before granting such loans, NDFIs must satisfy themselves that the infrastructure will support the industries to be established there. There is a danger that entrepreneurs might be induced by the prospect of loans on favorable terms to locate industrial projects in areas where the communications with prospective markets, availability of qualified staff and production inputs are inadequate so that the chances of success are jeopardized from the outset.

h) early warning system on "ailing" projects: NDFIs must ensure that they react to warning signals of impending crises at the earliest possible date, in order that remedial action may be undertaken without delay. Examples of such signals are:

- time and cost overruns during implementation;
- operating expenditures in excess of budget;
- falling sales revenues;
- an unforeseen intensification of competition;
- unintended increases in inventory levels;
- increasing age of receivables.

i) the handling of "ailing" projects requires special skills and experience, and for this reason NDFIs which are frequently confronted with such situations should consider setting up a special unit or division which would be entrusted with the task of keeping problem projects under close supervision and actively assisting the management in adopting whatever measures are needed either to take them out of the danger zone or to dispose of them, minimizing as far as possible the loss to the NDFI.

Ex-ante evaluation of projects on submission for financing and re-evaluation ex-post after the project has either reached maturity or failed is recommended as a means of accumulating knowledge and experience of the factors which determine success or failure so that project preparation, appraisal and monitoring techniques can be refined over time. The critical path method (PERT: Programme Evaluation and Review Technique) is a useful tool in keeping track of project implementation.

j) since a major problem of new enterprises (and of many existing ones) is too meagre a capital base, NDFIs should consider increasing the proportion of equity participations to loans. This would give them the power to monitor the enterprise's activities more closely, including participating in the management, and offer the possibility of high returns in the form of dividends, if the project is successful. Equity participation by NDFIs may also encourage equity participation by private investors, thus promoting the formation of a securities market in the country.

k) the above comments lead to the conclusion that NDFIs, in order to play a more effective role in industrial development, will have to extend the range of specialized functions they perform. A refinement of their organizational structure should be contemplated to make provision for:

research and training

technology evaluation and promotion

extension and promotional services unit

problem projects unit

l) NDFIs need to intensify their efforts to recruit staff at the graduate level and to raise the qualifications of existing staff by means of

in-house training programmes;

secondment to other NDFIs in the region which have already established special advanced level training units;

implementation of personnel exchange programmes to give staff members experience of the operational and management practices of other institutions.

The five-year, six million US dollar training programme for NDFIs in Africa, the elements of which were established at a meeting hosted by UNIDO in November-December 1983, should be of interest to NDFIs in OIC countries, which might wish to examine the usefulness of organizing a similar programme, possibly in co-operation with UNIDO and other concerned specialized organizations, and with the co-sponsorship of the IsDB. Efforts in this direction are already underway by the IsDB and some of the more experienced NDFIs in OIC member countries such as TSKB in Turkey, BNDE in Morocco and PICIC in Pakistan.

The programme is aimed at enabling African NDFIs to monitor and improve operational performance through training and institution-building. It will provide training for African NDFI professionals, and cater to the needs of specific target groups, e.g. chief executives, senior managers, operational managers, new recruits, teaching staff and also entrepreneurs and other potential clients of NDFIs.

The programme is expected to enhance the capacity of NDFIs in Africa to fulfil their catalytic role in the promotion and financing of SMIs. This will lead to an increased number of industrial projects and thereby to the development of local technological capabilities and increased employment opportunities for nationals.

It is estimated that some 3,000 professionals from African NDFIs will benefit from the programme over its five-year life.

5.3 Mobilizing Financial Resources Throughout the OIC Member States

However urgent the priority of increasing the efficiency of individual NDFIs may be, the measures outlined above cannot, in isolation, satisfy the aspirations of OIC member states regarding industrial development. It is only if ways can be found of enabling their NDFIs to spearhead co-operation in the sphere of industrial development between them that these institutions' full potential can be realized.

The basis of such co-operation must be a mechanism to enable financial resources to flow in a manner which is both mutually beneficial and takes account of the changing needs of OIC member states, some of which may temporarily have a surplus of capital, while others suffer from a shortage.

Selectivity is needed in identifying suitable investments: they must be in branches which have reached a certain stage of maturity and the object of the investment must be a project in such a branch which has been prepared in conformity with the stringent criteria of NDFIs, and there must be responsible and reputable project sponsors who can be relied upon to implement the project in a serious and professional way.

5.5 NDFIs and the Prospects for Joint Ventures among OIC Member Countries

The idea of promoting joint ventures between enterprises in OIC countries is nearly as old as the OIC itself: the question was first broached at the fifth Islamic Conference of Foreign Ministers, held in Kuala Lumpur in 1974.

Joint ventures as an objective of development finance are enshrined in the Charter of the IsDB (Article 16). The eighth Islamic Conference of Foreign Ministers (Libya, 1977) "approved and finalized" the General Agreement for Economic, Technical and Commercial Co-operation among Member States (of the OIC). Article 3 of this Agreement states that "the member states are to co-operate in preparing various studies to explore and identify the possibilities and opportunities of investing in joint ventures".

During the 10th Islamic Conference of Foreign Ministers (Fez, 1979) a paper on joint projects was presented by the IsDB, and the Conference approved the establishment of a Consultative Committee on the promotion of joint ventures among member states by the General Secretariat of the OIC in collaboration with the IsDB. This committee is to meet annually to consider policy measures aimed at promoting the setting up of joint ventures, such as preferential tariffs, fiscal incentives as well as identifying impediments to this form of commercial co-operation.

The third Islamic Summit Conference (Saudi Arabia, 1981) considered joint ventures as one of the principal tools of practical economic co-operation and the establishment of mutually-beneficial trade relations among OIC member states based on complementarity and the pooling of resources. The Conference also included a Plan of Action, whose aim is to strengthen economic co-operation through the establishment of joint ventures in food and agriculture, trade, industry, transport, communications and other sectors.

The third Islamic Summit Conference also endorsed the conclusion of an Agreement on Promotion, Protection and Guarantee of Investment in Member States by "removing all obstructions to the transfer of funds and the expansion of various investments, sectors and opportunities between the Muslim countries". The Agreement, while not yet ratified by all member states, represents a major advance in creating a climate favorable to joint ventures in Muslim countries.

The Ministerial Consultation on Industrial Co-operation among Islamic Countries (Islamabad, 1982) discussed ways and means of promoting joint ventures and the establishment of a mechanism to deal with the issues related to industrial development. The Consultation adopted a Declaration (the Islamabad Declaration) which defines a framework for industrial co-operation between Islamic countries and emphasizes the existence of an immense potential for joint ventures among these countries in the fields of agro-based, agro-supporting capital goods, engineering and other basic industries. The Declaration also calls for meetings of NDFIs, in collaboration with the Islamic Development Bank, to examine their role as intermediaries for the identification and preparation of bankable industrial projects.

The first annual meeting between the secretariats of the OIC and the United Nations system, held in Geneva on July 15 1983, requested UNIDO to act as the lead United Nations agency for follow-up action in the area of investment mechanisms and joint ventures.

In spite of the progress that has been made in promoting the concept of joint ventures between Islamic countries, some obstacles to co-operation remain. For example the fact that Islamic countries have differing political and economic systems may present difficulties when entrepreneurs proceed to implement joint ventures in them; for example the Investment Protection Agreement previously referred to has the drawback that it does not contain any specific guarantees of an investor's right to repatriate profits and principal in the currency of his choice.

Notwithstanding these reservations, there is no doubt that support for joint ventures as one of the principal vehicles for mobilizing financial resources and co-operation and for promoting industrial development in the OIC member countries is on the upswing, and that enterprises of this type will become more numerous as business interests in Islamic countries become more familiar with the concept.

5.6 NDFIs' Role in Promoting Joint Ventures in OIC Countries

NDFIs can contribute to economic co-operation between OIC countries:

a) by identifying branches of industry which qualify for priority status in the national development strategy because of their high level of comparative advantage or for other reasons, regardless of the current stage of development of such branches. These branches are more likely to be concerned with processing local raw materials and agricultural produce for export or as a substitute for imports. They may also be those which have been identified in the Islamabad Declaration, namely agro-based, agro-supporting capital goods and engineering industries.

NDFIs are well placed to act as focal points for gathering data on the potential for such branches, e.g. the size of the domestic market and export prospects, the number of manufacturing units already existing in the branch, the level of technology being employed, the relative intensity of capital and labour utilization, and operational data such as turnover per employee, ratio of value added to total investment, etc.

As the main repositories of such data, NDFIs will be able to play a leading role in the creation of joint ventures between local sponsors of existing or new projects and investors from other OIC countries where the same branches have already attained a higher stage of efficiency. This is clearly one of the most promising means of developing such branches of industry.

b) by identifying viable industrial projects in those branches which are suitable for multinational joint ventures. Whether the project is new, or the expansion of an existing one, it is essential that all relevant data on

feasibility studies

project cost

working capital

availability and remuneration levels of personnel

site of proposed plant and quality of its infrastructure

marketing arrangements and channels of distribution

export potential

projected sales

net profits, internal rate of return and pay-back period

full details of local partner and his previous business record

be collected in preparation for joint venture negotiations.

The information gathered should also include full details of government incentives available under "priority" or "pioneer" industry schemes and the effect of these on the joint venture's tax liability during the initial years.

c) by functioning as a source of information on investment conditions in a given country: national economic priorities, labour laws, employment of non-nationals, types of business entities that can be used as a vehicle for joint ventures or other industrial development projects, rules regulating investment by entrepreneurs or investment companies from other OIC countries, procedures for registering such investments, model agreements which take account of national laws and commercial practices, names of local entrepreneurs who are seeking a partner from abroad, and details of available projects. By extension, NDFIs can assist prospective investors from other OIC countries in completing the formalities required to establish a joint venture in the country concerned. This in itself may be an invaluable service, in view of differences of language, commercial practices and legal systems.

d) by drawing on the resources of the specialized Islamic institutions such as the Islamic Development Bank, Jeddah (IsDB); the Statistical Economic and Social Research and Training Centre for Islamic Countries, Ankara (SESRTCIC); the Islamic Fund for Science, Technology and Development, Jeddah (IFSTAD); the Islamic Centre for Technical and Vocational Training and Research, Dhaka KH¨L]L)OW̃ yqi Hwaujmx ¨qujzi& ep ¨ejji&xiW Hndustry and Commodity Exchange, |u&uxqm KH¨¨H¨?OW̃ ust yqi Hwaujmx ¨isy&i pe& yqi (ihiae%jisy ep L&utiW ¨uwuzausxu KH¨(LOM Lqiwi mswymyoymesw xus %&ehmti yqi &iwoayw ep yqim& els wyotmiwW wo&hicw ust &iwiu&xq &i%e&yw es u &usfi ep ye%mxw xaewiac &iauyit ye yqi yuwbw ust feuaw ep "(=HwM

One of the most important roles for NDFIs is that of acting as a focal point for channelling the resources and services of agencies such as the IsDB, Arab funds, the OPEC Fund for International Development, Islamic investment companies and UNIDO into the industrial development of individual OIC member countries. UNIDO itself provides a wide range of services aimed at helping developing countries develop their manufacturing sectors in an integrated and balanced manner. These can be intensified and expanded to cater for the needs of OIC member countries. Some examples follow:

Industrial Plant Profiles (How to Start Manufacturing Enterprises): documentation describing the main elements of an industrial process, designed for use by industrialists at an early stage of investment project preparation (see Annex 6 for a sample). UNIDO can prepare similar profiles covering technology and equipment available in the more industrially advanced OIC countries. Such documentation could coniderably facilitate industrial co-operation and trade in capital goods between Islamic countries.

Industrial Investment Profiles: concise information on individual developing countries for prospective investors, e.g. size and structure of the economy, composition of foreign trade, structure of existing manufacturing industry and the situation regarding foreign investment;

Investment Promotion Meetings: UNIDO has held a number of such meetings in developing countries, including OIC member countries, viz. Morocco, the United Arab Emirates, Bangladesh and Pakistan, which brought local industrialists and NDFIs into contact with investors from abroad seeking joint venture opportunities. The meetings resulted in a number of successful joint ventures being established; given sufficient lead time, similar meetings could be held in OIC countries as one of the ways of encouraging joint ventures between business interests in the member states;

Investment Promotion Offices: UNIDO has established a network of such offices, so far mainly in industrialized countries; if similar offices were to be established in OIC member countries they could provide

assistance to NDFIs in matching joint venture partners to local project sponsors.

Technical Assistance: the resources of UNIDO can be placed at the disposal of a branch of industry which is experiencing problems in identifying or implementing appropriate technologies. UNIDO can send a team of experts to work with local engineers and technicians on seeking solutions to such problems. NDFIs would have a vital intermediate role in ensuring that technical problems were clearly formulated so that UNIDO could decide on the type and scope of technical assistance required.

A UNIDO technical co-operation programme entitled "Strengthening the Enterprise-to-Enterprise Industrial Promotion and Joint Venture Programme of the Islamic Chamber of Commerce, Industry and Commodity Exchange" is currently under implementation. The main objective of this programme is to give institutional support to entrepreneurs of the Islamic countries in the establishment of joint ventures by strengthening the Islamic Chamber.

Technical Information: UNIDO has prepared substantial documentation on matters of concern both to NDFIs and to local industrialists - publications on establishing joint ventures, on designing feasibility studies, on evaluating industrial projects, on aid to SMI, to mention only a few - a fuller list is attached as Annex 4. These publications can be made available to NDFIs both for their own information and for purposes of dissemination to local entrepreneurs - including their translation into national languages of OIC member countries.

f) Implementing a UNIDO Proposal for a Programme to Promote Industrial Co-operation between OIC States

Having examined the special problems of industrial investment project identification and promotion in OIC countries, UNIDO has prepared a proposal for a practical methodology to promote industrial co-operation and mobilize financial resources among this group of developing countries. A detailed description of the programme is attached as Annex 5; a summary of the main programme objectives and activities follows.

The proposal has evolved from a programme already used with success in the electronics industry of a group of developing countries in Africa and Asia. The principal objective of the proposal is to bring together from the very early stages of project identification NDFIs, industrialists and sponsors of industrial projects from the same branch of industry, but from countries in which this branch is at different stages of development so that the wider technical and commercial know-how of the industrialists in technically more advanced countries may be placed at the disposal of businessmen with similar interests in the technically less advanced countries.

Thus the major developmental objectives of this programme proposal are to:

- identify new industrial investment projects and expansions or rehabilitations of existing projects which can be implemented, either as national ventures or as supranational joint ventures;

- identify problems impeding the development of such national and joint venture projects in the selected branch in the participating OIC countries, and put forward solutions which will improve these projects to the point where they can attract the inputs (financing, technology, management skills, etc) needed for their implementation;

- strengthen co-operation between OIC member countries by involving NDFIs, Islamic banks, the specialized Islamic institutions referred to earlier, national experts and industrialists from OIC countries in order to achieve maximum demonstration and on-the-job training results;

- provide an opportunity for Islamic investment corporations, some of which are experiencing difficulties in making profitable use of the substantial liquid funds at their disposal, to take equity participations in promising new ventures which offer prospects of a satisfactory return on investment.

The selection of a specific branch of industry meeting the priority criteria already set by OIC member countries, e.g. processing of fruit and vegetables, would be through consultations between OIC specialized institutions, Islamic financial institutions, NDFIs and UNIDO. NDFIs both in countries where the selected industrial branch is operating at a high level of efficiency and in those where the same branch is either inactive or operating at a lower level of efficiency will be invited to participate in the programme.

The NDFIs from the advanced countries will co-operate in preparing a study describing the development history and the present state of the selected branch in their own countries, while the NDFIs from the less advanced countries will concentrate on preparing a country paper presenting the potential for the branch in these countries, together with the main obstacles to its development and ways of eliminating them. They will also identify specific investment opportunities and provide information on such projects.

The task of the programme sponsors (the specialized Islamic institutions and UNIDO) will be to:

a) prepare a background paper on the characteristics of the selected industrial branch to cover such topics as the optimal economic size of production facilities, regional and global trends in production and consumption which also will include details of relevant UNIDO studies. It will highlight the experiences of other developing countries in this branch and provide guidelines on starting production at various levels of technology;

b) prepare an annotated outline of the country paper mentioned above. The country paper of each participating OIC member state will be in two parts: the first part to help identify opportunities for new investments or expansions and at the same time to promote domestic and foreign investment in the selected industrial branch. Thus this part will provide data on market potential, the availability of raw materials, skilled labour, existing plants, projects in process of implementation, investment incentives, joint venture opportunities and availability of finance. The second part of the country paper is intended to assess progress achieved in developing the industrial

branch selected, impediments to further development and ways of eliminating them - including "programme lending" needs;

c) organize exchanges of experts, industrialists and NDFI staff between countries where the selected branch is at a more advanced stage and countries where it is less advanced;

d) inform concerned national, regional and international finance institutions about the programme's objectives and outputs;

e) organize in each participating OIC member country a national workshop on the selected industrial branch. The workshop will bring together local and foreign partners already active in the branch, prospective foreign partners, NDFIs and investment companies, research and development institutions and other organizations and individuals concerned with the development of the branch.

The programme sponsors could follow-up the programme with assistance to project sponsors. Such assistance could include access to the UNIDO Investment Co-operative Programme's network of Investment Promotion Services and Investment Promotion Information System (INPRIS), assistance both in contacting finance institutions and in ensuring that technical assistance and "programme lending" requests reach the organizations best able to provide help.

6. Proposal for Further Action

Implementing the suggestions and recommendations contained in this paper requires the convening of periodic meetings between senior officials of NDFIs in OIC countries, concerned Islamic organizations, and UNIDO. Such meetings would provide a forum for discussing the matters raised; for reaching agreement on them, or modifying them; as well as for taking steps towards their implementation.

REFERENCES

1. Source: UN Statistical Yearbook 1979/80, quoted in "Journal of Economic Co-operation among Islamic Countries", July 1983

2. Source: Islamic Economic Chamber, Information Bulletin: Aug-Sept 1982

3. Source: unpublished World Bank paper:"Policies relating to Linkage of Bank and IFC Support to DFIs," Washington D.C., 1984

4. IsDB: Annual Report for 1402 H (1981-82), p. 17.

5. Ibid., p. 25.

6. Source: unpublished UNIDO report on the role of small and medium-scale industries in OIC member states, p. 37.

Annex 1

NATIONAL DEVELOPMENT FINANCE INSTITUTIONS
AND ISLAMIC FINANCIAL INSTITUTIONS
IN THE MEMBER COUNTRIES OF THE
ORGANIZATION OF THE ISLAMIC CONFERENCE

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
ALGERIA		
1. Algerian Development Bank, 38, Ave. Franklin Roosevelt, Algiers	44.3	502
2. External Bank of Algeria, 11, Blvd du Col. Amirouche, Algiers	149.6	--
BAHRAIN		
*3. Bahrain Islamic Bank P.O. Box 5240, Government Rd., Manama	15.5	--
*4. Bahrain Islamic Investment Co., Manama	--	--
*5. Albaraka Islamic Investment Bank P.O.Box 1881, Manama	--	--
*6. Masraf Faisal Al Islami of Bahrain, Manama	--	--
BANGLADESH		
7. Bangladesh Krishi Bank G.P.O. Box 357, 84 Motijheel, Dacca	16.6	19
8. Bangladesh Shilpa Rin Sangstha P.O.Box 473, Motijheel, Bangladesh	19.7	125
9. Investment Corporation of Bangladesh P.O. Box 2058, 64 Motijheel, Dacca	5.8	83

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
10. Bangladesh Shilpa Bank P.O.Box 975, Agrani Bank Bhaban Motijheel Dacca	7.1	125
*11. International Islamic Bank of Dacca Ltd.	--	--
*12. Islamic Bank of Bangladesh Ltd.	--	--
BENIN		
13. Benin Development Bank P.O.Box 300, 2 r. des Cheminots, Cotonou	1.6	--
BURKINA FASO		
14. National Development Bank B.P. 148, Ouagadougou, Burkina Faso	4.8	7
CAMEROON		
15. National Investment Society, Yaoundé	--	--
COMOROS		
16. Comoros Development Bank Place de France, P.O.Box 298, Moroni	--	--
EGYPT		
17. Development Industrial Bank 110 Galaa St., Cairo	31.0	1,683
18. Misr Iran Development Bank P.O.Box 666, 8 Adly St. Cairo	41.2	4

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
*19. Faisal Islamic Bank of Egypt P.O.Box 2446,1113 Cournish El Nil, Cairo	21.7	5
*20. Islamic International Bank for Investment and Development P.O.Box 180 Orman, Cairo	5 5	4
*21. Nasser Social Bank 35 Kassr Al Neel St., Cairo	--	--
GABON		
22. Gabonese Development Bank P.O.Box 5 Rue Alfred Marche, Libreville	16.4	3
GUINEA		
*23. Masraf Faisal Al-Islami, Conakry	--	--
INDONESIA		
24. P.T. Bahana Pembinaan Usaha Indonesia P.O.Box 3228/JKT, Jalan Teuku Cik, Ditiro 23, Djakarta	4.3	25
25. Bank Bumi Daya P.O.Box 106,Jl, Kebon Sirih 66-70,Jakarta	123.1	424
26. Bank Pembangunan Indonesia, P.O.Box 140, Jalan Gondangida Lama 2-4,Jakarta	136.9	345
27. P.T. Indonesian Financing and Investment Co. P.O.Box 408, Skyline Bldg. 17th Floor Jalan M.H. Thamrin 9, Jakarta	4.7	3
28. Irian Jaya Joint Development Foundation P.O.Box 410, Jalan Percetakan Negara 4-6, Jayapura	5.4	--

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
29. P.T. Private Development Finance Co. P.O.Box 3435 Jkt,60, Jalan Abdul Muis, Jakarta	101.5	25
30. P.T. Usaha Pembiayaan Pembangunan Indonesia P.O.Box 24/JKT,Jalan Abdul Muis 28, Jakarta	10.0	48
31. P.T. First Indonesian Finance and Investment Corporation P.O.Box 290 JKT 24, Jl Cikini Raya, Jakarta Pusat	6.5	3
IRAQ		
32. Industrial Bank of Iraq P.O.Box 5825,Khullani Sq., Baghdad	185.8	666
IRAN		
*33. Iran Islamic Bank, Teheran	--	--
JORDAN		
*34. Islamic Investment House Co. P.O.Box 927230,Jabel-Al Hussain, Amman	--	--
35. Industrial Development Bank P.O.Box 1982, Amman	17.7	79
*36. Jordan Islamic Bank for Finance and Investment, Amman	--	--
KUWAIT		
*37. Kuwait Finance House P.O.Box 24989, Safat, Ahmed Al-Jaber St.	62.5	--

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
38. Industrial Bank of Kuwait, P.O. Box 3146, Kuwait	--	--
LEBANON		
39. Investment and Finance Bank P.O.Box 165 110, Achrafieh, Ave. Fouad Chéhab,Quartier St. Nicolas, Beirut	4.4	21
40. National Bank for the Development of Industry and Tourism P.O.Box 11-8412, rue Fouad Chehab, Imm, SNA, Tabaris, Beirut	20.8	25
MALAYSIA		
41. The Development Bank of Malaysia Ltd. P.O. Box 2352 17 Jalan Melaka, Kuala Lumpur	11.3	377
42. Central Malaysian Finance Berhad 89-91 Jalan Bukit Bintang, Kuala Lumpur	4.1	--
43. Development and Commercial Bank Ltd. Berhad P.O.Box 145, 18 Jalan Silang, Kuala Lumpur	30.5	--
44. Industrial Development Bank of Malaysia P.O.Box 788, Wisma Lee Rubber, Jln. Melaka, Kuala Lumpur	20.5	--
45. Malaysian Industrial Development Finance Berhad, P.O. Box 2110, 195A, Jalan Pekeliling, Kuala Lumpur 16-01	62.2	204
*46. Bank Islam Malaysia Kuala Lumpur	--	--

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
47. Sabah Development Bank P.O.Box 2172 Berjaya Bldg. Jalan Tuaran, Kota Kinabalu	22.6	29
48. United Asian Bank P.O.Box 753 Wisma Doshi 12 Jalan Tuanku Abdul Rahman, Kuala Lumpur	21.0	450
MAURITANIA		
*49. National Fund for Development, Nankchott	--	--
MOROCCO		
50. Banque Centrale Populaire P.O.Box 460, 101 Blvd. Zerktouni, Casablanca	12.2	143
51. Moroccan Bank for Trade and Industry P.O.Box 573, 26 Place Mohammed V, Casablanca	13.2	34
52. National Bank for Economic Development P.O.Box 407, Place des Alacuites, Rabat	24.4	630
NIGER		
53. Development Bank of the Republic of Niger P.O. Box 227 Ave. Charles de Gaulle, Niamey	8.8	35
*54. Masraf Faisal Al Islami, Niamey		
OMAN		
55. Oman Development Bank P.O.Box 309, Muscat	29.4	31

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
PAKISTAN		
56. Industrial Development Bank of Pakistan P.O.Box 5082, State Life Bldg. 2 Wallace Rd. off Chundrigar Rd., Karachi 2	15.5	155
57. National Development Finance Corporation P.O.Box 5094, PNSC Building Moulvi Tamizuddin Khan Rd. Karachi	33.3	115
58. Pakistan Industrial Credit and Investment Corporation Limited (PICIC) Box 5080, State Life Building 1 Chundrigar Rd., Karachi	31.7	27
*59. Investment Corporation of Pakistan P.O.Box 5410, NBP Bldg. Chundrigar Rd., Karachi	11.7	47
*60. National Investment Trust P.O.Box 5671, Chundrigar Rd., Karachi	118.9	14
*61. Small Business Finance Corporation P.O.Box 1587 National Bank of Pakistan Bldg. Civic Centre, Islamabad	8.9	381
QATAR		
62. Commercial Bank of Qatar P.O.Box 3232, Doha	10.8	--
*63. Islamic Bank of Qatar, Doha	--	--
SAUDI ARABIA		
*64. Islamic Development Bank P.O.Box 5925 Al-Khazam Palace, Jeddah, Saudi Arabia	1.2 bn	19

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
65. Saudi Industrial Development Fund P.O.Box 4143, Riyadh	--	--
*66. Thadamun Islamic Bank, Jeddah	--	--
SENEGAL		
67. National Development Bank of Senegal P.O.Box 319, Avenue Roume, Dakar	6.1	12
68. Senegalese Finance Corporation for the Development of Industry and Tourism P.O.Box 2003, 34 Ave. du Président Lamine Gueye, Dakar	--	--
69. Senegalese Union Bank P.O.Box 56, 17 Blvd. Pinet Laprade, Dakar	6.0	--
*70. Masraf Faisal Al Islami, Dakar	--	--
SIERRA LEONE		
71. National Development Bank Limited Leone House 21/23,Siaka Stevens St., Freetown	2.1	8
SOMALIA		
72. Somali Development Bank P.O.Box 1079, Mogadiscio	15.0	34
SUDAN		
73. The Industrial Bank of Sudan P.O. Box 1722, United Nations Sq., Khartoum	--	17

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
74. Sudan Development Corporation P.O.Box 710, 69 Africa Rd., Khartoum	253.5	3
*75. Faisal Islamic Bank of Sudan P.O.Box 2415, Khartoum	--	--
*76. Sudanese Islamic Bank, Khartoum	--	--
*77. Islamic Cooperative Development Bank	--	--
TUNISIA		
78. Economic Development Bank of Tunisia 68 ave. Habib Bourguiba, Tunis	18.7	127
79. Tunisian Banking Company 1 avenue Habib Thameur, Tunis	49.1	224
*80. Saudi-Tunis Finance House, Tunis	--	--
TURKEY		
81. Industrial Development Bank of Turkey, Istanbul	--	--
82. Turkish State Investment Bank, Ankara	--	--
83. Turkish Cumhuriyeti Ziraat Bankasi, Ankara	--	--
84. State Industrial and Labour Investment Bank, Ankara	--	--
UGANDA		
85. Development Finance Co. of Uganda Ltd. P.O.Box 2767, 3 Portal Ave., Kampala	0.2	--

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Name and address of Institution	Paid-in capital and Reserves (US$ mn)	Projects financed in last fiscal year
86. Uganda Development Bank P.O.Box 7210, 14 Parliament Ave., Kampala	--	8
UNITED ARAB EMIRATES		
87. Commercial Bank of Dubai Ltd. P.O.Box 1709 Bin Yas St., Dubai	--	4
*88. Dubai Islamic Bank P.O.Box 1080, Dairah-Dubai-Al Maktoum Street, Dubai	--	--
*89. Islamic Investment Co. of the Gulf, Sharjah	--	--
YEMEN ARAB REPUBLIC		
90. Yemen Industrial Bank P.O.Box 323, Sanaa	--	--

This list of finance institutions is based on information available in-house at UNIDO, and therefore does not include all NDFIs and Islamic financial institutions in OIC countries.

Finance institutions adhering to Islamic principles are marked * .

Annex 2

ISLAMIC FINANCIAL INSTITUTIONS IN COUNTRIES NOT ADHERING TO THE OIC

Name of Institution	Year of Establishment
PHILIPPINES	
1. Philippine Amanah Bank, Manila	1973
INDIA	
2. Falah Investment Company Ltd, Bombay	1983
3. Ittefaq Investment Ltd., Bombay	1983
BAHAMAS	
4. Islamic Investment Company, Nassau	1977
5. Shari'a Investment Services S.A., Bahamas / Geneva	1980
6. Dar-Al-Maal-Islami Trust, Bahamas	1981
7. African-Arab Islamic Bank, Bahamas	1981
8. Islamic Financial Holding Ltd, Bahamas	1982

Name of Institution	Year of Establishment
CYPRUS	
9. Islamic Bank of Kibris, Cyprus	--

Annex 3

ISLAMIC FINANCIAL INSTITUTIONS IN INDUSTRIALIZED COUNTRIES

Name of Institution	Year of Establishment
SOUTH AFRICA	
1. First Muslim Interest Free Business Institution, Johannesburg	1976
LUXEMBOURG	
2. Islamic Banking System International Holding, Luxembourg	1978
SWITZERLAND	
3. Shari'a Investment Services S.A., Geneva	1980
UNITED KINGDOM	
4. Al-Rajhi Company for Islamic Investments Investments, London	1981
5. Islamic Finance House Public Company, London	1981
6. First Interest Free Finance Consortium, London	1982
7. Islamic Investment Company of the UK, London	1982
8. Massraf Faysal Al-Islami of the UK, London	1982

Name of Institution	Year of Establishment
AUSTRALIA	
9. Islamic Investment Company, Melbourne	1982
DENMARK	
10. Islamic Bank International Holding, Denmark, Copenhagen	1983

Annex 4

This Annex lists UNIDO documents which are relevant to the topics of economic co-operation, joint ventures, preparation of feasibility studies, evaluation of projects, and industrial finance. This list is not exhaustive and is only intended to be illustrative.

Contractual aspects of industrial projects and joint ventures

Manual on the Establishment of Industrial Joint Venture Agreements in Developing Countries	ID/244

Chemical Industries

Legal aspects of contracts for the successful construction, operation and maintenance of large fertilizer and chemical processing plants	ID/WG.259/4
A proposal for an improved plant acceptance test run schedule to meet contractual guarantees	ID/WG.259/6
Comprehensive outline on contracting methods	ID/WG.259/9
Legal aspects of contracting methods and arbitration	ID/WG.259/10
Pre-contracting procedures for fertilizer and chemical process plant	ID/WG.259/12
Contracting guidelines for fertilizer and chemical plants. Performance guarantees and tests	ID/WG.259/13 ID/WG.259/14
Model forms of contract for the construction of a fertilizer plant and guidelines for their use	ID/WG.281/1
First draft of the UNIDO model form of turn-key lump sum contract for the construction of a fertilizer plant	ID/WG.306/2
Second draft of the UNIDO model form of turn-key contract for the construction of a fertilizer plant	ID/WG.318/4

Establishing a multilateral insurance scheme providing adequate coverage for consequential losses incurred by fertilizer and other industrial plants	ID/WG.318/6

Pharmaceuticals

Preliminary draft of the main clauses to be considered in drafting a licensing agreement on pharmaceutical industry	ID/WG.317/2
Relevant issues to be taken into account when negotiating transfer of technology agreements	ID/WG.331/2
The availability, terms and conditions for the transfer of technology for the manufacture of essential drugs	ID/WG.331/5
Items which could be included in licencing arrangements for the transfer of technology for the formulation of pharmaceutical dosage forms	ID/WG/303/3

Petrochemicals

The preparation of a model form of contract covering the licensing of patents and know-how in the petro-chemical industry	ID/WG.291/4
Long-term arrangements for the development of the petrochemical industry in developing countries including arrangements for marketing petrochemicals produced in developing countries	ID/WG.336/2
UNIDO Model Form of Agreement for Licensing of patents and know-how in the petrochemical industry, including annexures: An integrated commentary and alternative texts of some clauses	UNIDO/PC.50/ Rev. 1 5 May 1983

Agro-based Industries

Leather and Leather Products

Draft Cheklist for contractual agreements in the footwear sector between enterprises from developed and developing countries	UNIDO/PC.22

Draft Checklist for Contractual Agreements in the Tanning Sector — UNIDO/PC.60

Food Processing Industry

Checklist of specific elements to be included in contractual arrangements for the vegetable oils and fats industry

Metallurgical Industries

Iron and Steel

Principles and topics (basic contents) to be included in long-term purchase contracts for coal — ID/WG.286/5

Iron ore - its supply, market structure and contractual arrangements — ID/WG.360/1

Agricultural Machinery

Items to be included in model contracts for the import, assembly and manufacture of agricultural equipment including training; Model Licensing Agreement — ID/WG.400/2

Capital Goods

Concepts and proposals concerning new contractual agreements for setting up a capital goods industry — ID/WG.324/1

Long-term contractual agreements for the setting up of capital goods — ID/WG.324/5

Long-term contractual arrangements for the setting up of capital goods in the iron and steel industry — ID/SG.324/6

Industrial Projects Preparation, Evaluation and Financing

Manual for the preparation of industrial feasibility study — ID/206

Manual for evaluation of industrial projects (prepared jointly by UNIDO and IDCAS)	ID/244
Series on the domestic financing of manufacturing enterprises in developing countries:	
- Financing of manufacturing in Africa	UNIDO/IS.256
- Financing of manufacturing in enterprises in India	UNIDO/IS.266
- Financing of manufacturing in enterprises in Bangladesh, Indonesia, Malaysia, Sri Lanka and Thailand	UNIDO/IS.276
Project Financing	UNIDO/IO.551
Exchange of information among developing countries' banks to facilitate industrializations	UNIDO/IS.418

Annex 5

D R A F T P R O P O S A L

Programme title: A practical methodology for promoting industrial co-operation, and facilitating the mobilization of financial resources, between member states of the OIC: a programme for the generation and promotion[1/] of national and multinational industrial investment projects in selected industrial branches.

Background and justification:

During the past decade various meetings, at levels varying from summits to experts meetings, have been held to discuss and recommend action programmes for the promotion of economic co-operation through the identification and implementation of joint ventures and investment mechanisms, between OIC member states. A summary of the major recommendations and decisions, taken during these meetings, is given in Annex I.

The subject of joint ventures and investment mechanisms was discussed at the meeting between the UN system of organizations and the OIC which took place in Geneva on 15 July 1983. This meeting decided to designate UNIDO as the lead UN agency for follow-up action in the area of "investment mechanisms and joint ventures".

During the past few years, the OIC has established a number of Specialized Institutions (SIs) for the purpose of promoting and facilitating

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1/ The term "promotion" in the context of this programme does not mean promoting an investment decisfon regarding any specific industrial project, but rather promoting an early and serious preliminary interest in pursuing the project further by one or more financing institutions, technical partner or joint venture partner, or others.

economic and industrial co-operation between member countries. These SIs include the Islamic Development Bank, Jeddah (IsDB); the Statistical, Economic and Social Research and Training Centre for Islamic Countries, Ankara, (SESRTCIC); the Islamic Fund for Science, Technology and Development, Jeddah (IFSTAD); the Islamic Centre for Technical and Vocational Training and Research, Dhaka, (ICTVTR); the Islamic Chamber of Commerce, Industry and Commodity Exchange (ICCICE); Karachi; and the Islamic Centre for the Development of Trade, Casablanca (ICDT).

Throughout the OIC efforts to promote joint ventures, the Islamic Development Bank (IsDB) was considered a focal point and was entrusted with the task of practical implementation of various recommendations concerning the identification and promotion of joint ventures between OIC member states. In July 1983, IsDB organized a three-day workshop on joint ventures which was attended by private industrialists and public sector industrial development officials. The purpose of the Workshop was for the IsDB to seek guidance from participants in identifying the specific actions which the IsDB can take to promote co-operation among OIC member countries for socio-economic development. Discussions covered: definition and forms of joint ventures, ways and means for promoting joint ventures and the role of IsDB in the promoting of joint ventures.

Furthermore, a large number of Islamic banks, investment companies and financing institutions are now operating in member countries of OIC as well as in non-member countries. These financing institutions are ready and willing to finance viable projects in OIC member countries.

Special Considerations:

The Islamabad Declaration called for the Identification and promotion of joint ventures between OIC member countries and for examination of the role of national development finance institutions (NDFIs) in preparing bankable projects.

The promotion of industrial joint ventures between OIC member countries cannot be successfully achieved unless the relevant industrial branch in the member country where the venture is to be located is operating with a reasonable degree of efficiency. Therefore the implementation of effective joint ventures is inextricably tied to the state of affairs in the relevant industrial branch at the national level in individual OIC member states. Hence this programme is designed to lead to the generation and promotion of both national and multinational investment projects through the full and active participation of national development finance institutions and other national Islamic financing institutions, as well as of OIC SIs.

The lack of identified and well substantiated industrial projects backed by competent local private or public sponsors is being more and more singled out as a major handicap facing the operations of national, regional and international financing institutions in developing countries. The identification and promotion of an increasing number of viable industrial investments in many OIC countries is hampered mainly by weaknesses in capabilities to independently identify viable investment projects. This same weakness is also hampering the rehabilitation of the many under-utilized existing industrial plants in the same countries. At the same time a great deal of the inter-disciplinary and complex know-how required for effective project identification is available to national development banks and enterprises in some of the more advanced OIC member countries. It is therefore expected that this Programme's "project generation" methodology, by bringing together from the very early stages of project identification, NDFIs and potential industrialists from OIC member countries at different stages of development, will automatically enhance the chances of more and better quality projects being identified and promoted. Each programme will concentrate on one specific industrial branch with growth potential and in which small and medium-size industries predominate. The programme's "project generation" methodology aims at bringing the following two specific groups together from the very early stages of project identification:

- the first group consists of NDFIs and industrialists from one or more OIC member country(ies) where a specific industrial branch has reached a relatively high level development, and

- the second group consists of NDFIs, industrialists and potential industrialists from a manageable number (e.g., five) of OIC member countries where the same specific industrial branch has considerable potential but is presently at a lower level of development than in the first country or group of countries.

The serious commitment of the private and public sectors [2/] concerned with the selected industrial branch in each participating OIC country, throughout the implementation of the entire programme, is essential to its achieving the stated objectives. Furthermore, the programme's implementation also requires the joint sponsorship, and active participation of all concerned SIs, such as IsDB, ICCICE, SESRTCIC, IFSTAD, ICDT, ICTVTR, and other Islamic banks and investment companies. These SIs and UNIDO will be referred to in this document as the Programme Sponsors.

Objectives

The industrial plans of OIC member countries usually identify a number of priority industrial branches for further development work. However, the transformation of objectives described in these development plans into real life industrial plants operating with a reasonable degree of economic and financial efficiency has been difficult to achieve. Unutilized capacities and "white elephants" exist in many developing countries. This situation is caused by many factors, such as physical infrastructural problems, some of which are beyond the scope of this programme. The major development objective of this programme is to assist a selected number of OIC member countries to generate and promote better quality national and multinational industrial investment projects with improved chances of efficient operation after implementation, and thereby facilitate the mobilization of the required financial resources. Other objectives include the dissemination of information among concerned institutions and industrialists, thereby promoting and initiating more effective industrial co-operation, and removing constraints, or at least, alleviating their effect on restraining the momentum of OIC actions aimed at achieving self-sustaining industrial growth through the promotion of national and multinational projects (joint ventures).

[2/] This includes national manufacturers associations, ministries of industry, applied R&D institutions, etc.

Immediate Objectives

To carry out a programme of activities aiming at:

(a) upgrading the quality of OIC member countries "pipeline " or "stock" of national and multinational industrial investment projects thereby considerably enhancing the "promotability" or ability of these projects to attract missing inputs (financing, technology, management, etc.), required to bring about the implementation of an increasing number of efficient industrial production units;

(b) strengthening co-operation between OIC member countries by involving NDFIs, Islamic banks, SIs, national experts and industrialists from OIC member countries to the fullest extent possible in order to achieve maximum demonstration and on-the-job training effects, to facilitate exchange of information and to promote co-operation in a specific industrial branch;

(c) identifying specific problem areas hampering the development of national and joint venture projects in the selected specific industrial branch in the participating OIC member countries, and the latter's ability to attract an increasing amount of foreign and domestic investments; identifying solutions for these specific problem areas which would constitute a "pipeline" of required technical assistance. This will include the identification of industrial branch "programme lending" needs for later submission to financing institutions.

Programme Outputs

(i) A country paper, for each participating OIC member country, parts of which can later be used as a promotional brochure for the selected industrial branch;

(ii) a number of small and medium-size national and multinational industrial investment projects (new, redeployed, expansion or rehabilitation

projects), identified for participating OIC member countries, with an enhanced chance of being implemented as joint ventures, or under other forms of co-operation;

(iii) closer and direct co-operation between NDFIs, SIs, enterprises and other organizations concerned with the selected industrial branch in participating OIC member countries;

(iv) more skillful and more experienced OIC participating countries' nationals in preparing, presenting and promoting bankable projects;

(v) identified specific problem areas and weaknesses in the selected industrial branch, as well as proposed remedial actions, technical assistance needs, and "programme lending" needs, required to alleviate or remove these weaknesses and problem areas;

(vi) a set of substantive documentation (see items [iv]a-3) which can be used by other OIC member countries, and can be published as "guidelines for the generation and promotion of industrial investment projects in Islamic countries" . Each volume of these guidelines will cover one specific industrial branch.

Programme Activities

(i) Selection of the industrial branch

Through consultations between concerned OIC organizations, regional and national Islamic financing institutions, NDFIs and UNIDO, a specific industrial branch which meets the priority criteria already established by OIC member countries will be selected. A likely candidate for the first programme is a food processing branch, such as fruits and vegetables processing.

(ii) Selection of participating OIC member countries

Through the same consultations procedure referred to in (i) above, NDFIs and Islamic financing institutions in member countries where the selected industrial branch is known to be operating at a relatively high level of efficiency will be identified and contacted in order to ascertain their interest in participating in the programme. These will constitute the 1st group NDFIs. Similarly NDFIs in countries where the selected industrial branch has considerable development potential but is either inactive or is operating at a low level of efficiency will be identified and contacted in order to ascertain their interest in participating in the programme. These will constitute the 2nd group NDFIs. The number of participating countries will depend upon practical considerations for its successful implementation. Each participating country will be represented by one or more NDFIs, Islamic banks, investment promotion agency or similar organization, but only one lead organization will be selected for each participating country. These lead organizations are referred to in this document as 1st group NDFIs or 2nd group NDFIs.

Each NDFI will nominate several candidates for the selection of a specialized team (ST) of three persons (one technologist, one economist and one financial analyst), who posses, as extensive as possible, project experience in the selected industrial branch.

(iii) Preparations by participating NDFIs

Each ST from 1st group NDFIs will:

(a) prepare a "study" on the selected industrial branch in their own country. This study will cover, inter alia, the following:

(i) detailed information on the structure of the branch in their country including number and capacity utilization of existing plants, quality of products and whether for local or export markets, plants under implementation, etc.

(ii) how the branch was developed, what problems and difficulties were faced and how these were solved, policies and incentives adopted, etc.;

(iii) a detailed description of advisory services, training facilities, equipment, etc. which can be made available to other OIC member countries;

(iv) specific proposals for national and joint venture projects;

(v) assist, to the extent possible, in the preparations by the Programme Sponsors.

Each ST from 2nd group NDFIs will:

(a) draw up a list of qualified nationals and organizations (economists, technologists, financial analysts, industrialists, legal experts, government officials, etc), who have experience and expertise in the selected industrial branch. This list will be known as the National Roster (NR) for the selected industrial branch;

(b) prepare, in close consultation and co-ordination with members of the NR, a Country Paper (CP) on the selected industrial branch in their country, in accordance with an annotated outline to be provided by the Programme Sponsors. The CP is intended to:

(1) facilitate the joint identification or generation of opportunities for new investments, redeployments, expansions or rehabilitations, (2) to identify bottlenecks, difficulties, etc., facing existing industrial plants in the selected branch and hampering further investments, and to propose ways and means of removing these bottlenecks including the preliminary formulation of technical assistance and "programme lending" needs.

(c) identify, in close consultation and co-ordination with members of the NR, specific investment projects, and projects sponsors, in the selected industrial branch, for establishment in their country, and prepare an Industrial Investment Project Questionnaire (IIPQ) on each identified project. This IIPQ will also be provided by the Programme Sponsors.

(iv) Preparations by the Programme Sponsors

In order to guide and assist the specialized teams in undertaking their preparatory work, the Programme Sponsors will provide each team with:

(a) A background paper on the characteristics of the selected industrial branch, covering, inter alia, considerations determining the establishment, rehabilitation or redeployment of plants; recent global, regional or national trends in production, consumption and international trade; technical and economic factors of special relevance to developing countries, possible UNIDO assistance,etc. This paper will concentrate mainly on the range of products to be covered by the programme listed under (c) below, and will include relevant findings and recommendations of relevant UNIDO and other studies and reports. It will provide information on how other developing countries started their own production, what difficulties they faced and what successes were achieved. It will also provide some guidelines and criteria for developing countries to start production at various technology levels.

(b) An annotated outline of the CP, which will consist of two main parts. The first part is intended to (1) facilitate the identification or generation of opportunities for new investments, redeployments, expansions or rehabilitations, and (2) to serve as a document for promoting local and foreign investments in the selected industrial branch. Therefore, this first part will provide, inter alia, detailed information on all relevant preinvestment data such as imports, local production, exports and market potential (local and export), raw materials availability, specifications and cost, skilled manpower availability and cost, utilities availability and costs, plants already in operation, projects under implementation or under consideration, incentives extended through investment encouragement legislation or others, assessment of interest of public and private sectors in joint ventures, and availability of full or partial local financing.

The second part of the CP is intended to assess progress achieved, in developing the selected industrial branch in each country, to benefit as fully as possible from the country's potential. It will provide information on difficulties facing existing industrial plants and hampering further development and investments. This second part will identify and analyse these problem areas, propose specific remedies including technical assistance and "programme lending" needs;

(c) A list of the industrial branch products which will be covered by the programme with a brief description, including brief standard specification, of each product;

(d) Industrial profiles (see sample attached) on a selected number of the more common types of products to be covered by the programme;

(e) A sample of the Industrial Investment project Questionnaire, which will be a specialized version (for the selected industrial branch) of UNIDO's existing Projects Questionnaire.

(f) A list of all UNIDO and other Programme Sponsors' documents relevant to the selected industrial branch. Copies of selected documents will also be sent to NTs. These will include sector papers, manuals on joint ventures, and preparation of feasibility studies, as well as UNIDO computer software for use in pre-investment activities.

(g) In addition to the above, the SIs will provide the STs with relevant information on OIC member countries such as:

(1) the structure of the selected industrial branch in other non-participating OIC member countries (SESRTCIC);

(2) trade between OIC member countries in the products of the branch as well as trade promotion and financing facilities available to OIC member countries (ICDT);

(3) new projects being considered or under implementation by non-participating OIC member countries (ICCICE);

(4) training facilities in OIC member countries (ICTVTR);

(5) applied R&D facilities and availability of machinery and equipment for the selected branch in OIC member countries (IFSTAD).

The implementation of the following programme activities will be supervised through periodic visits by staff from the Programme Sponsors to participating OIC member countries:

(a) assign experts for varying periods of time, from 1st group NDFIs to 2nd group NDFIs in order to assist in the preparation of CPs and IIPQs. The experts, with the assistance of Programme Sponsors, may also organize and conduct practical and specialized on-the-job training programmes in the countries to which they are assigned. These training programmes may cover different aspects related to projects formulation, preparation of feasibility studies, projects appraisal, negotiations as well as to national and multinational promotion policies.

If required, a team of qualified international experts, especially technologists, will also be provided, to assist STs in the preparation of their documentation, in the implementation of the specialized on-the-job training programmes, and in the national workshops described below.

(b) exchange CPs and IIPQs and the "study" between all the NDFIs participating in the programme. Copies of CPs and IIPQs will also be sent to all Programme Sponsor.

(c) arrange for the travel of the specialized teams from 2nd group NDFIs to 1st group countries participating in the programme, and whose industrial branch is relatively more advanced, in order to become better acquainted with how the branch was developed, to meet industrialists, financiers, potential joint venture partners, and government officials to discuss specific topics and specific projects, and to visit operating Plants. The programme of these visits by the specialized teams will be organized by the NDFIs in the countries hosting the teams. Selected members of the National Roster may also join these visits.

(d) identify, and inform of the programme, all national, regional and international financing* institutions whose mandate allows project, programme or technical assistance financing in the selected industrial branch in the participating OIC member countries. Subsequently, with the assistance of IsDB, a document will be prepared listing the identified financing institutions and explaining how they can be approached, their method of financing, etc. This document will also include information on Islamic investment mechanisms, joint Islamic financing institutions, etc., and will be distributed during the workshop described in para (e) below.

(e) organize in each participating OIC member country a national workshop on the selected industrial branch. This workshop will bring together members of the National Roster, OIC and foreign partners already operating in the country, new potential foreign partners, financing institutions, research and development institutions, the experts mentioned in para (a) above, staff of Programme Sponsors and any other organization or individual concerned with any aspect of the development of the specific industrial branch. These workshops will combine plenary type sessions (e.g., during the mornings) and the bilateral type of discussions (during the evenings) which usually predominate during the investors' fora regularly organized by UNIDO in developing countries. The dates of the workshop will be publicised through the Programme Sponsors (e.g., UNIDO/ICP Investment Promotion Services), in order to allow participants from all interested countries to attend the workshop at their own expense. The duration of each workshop will depend upon the size and potential of the specific industrial branch in each country.

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* Financing institutions are extending lines of credit, lines of leasing and lines of equity to NDFIs. A group of projects identified through this programme may be a justification for a participating country to request one of these lines of financing.

The purpose of these national workshops will be (a) to allow the national teams to present their CPs and IIPQs for review and discussions with a view to modifying, adding, changing or confirming any of their contents by the workshop; (b) to agree on recommendations, for developing the branch, related to local policies and incentives, setting up of joint investment companies, training, R&D , technical assistance and "programme lending" needs, etc.; and (c) to make progress for following up the promotion of specific projects.

Depending on the number and quality of the multinational (joint venture) projects identified by the programme, the Programme Sponsors may decide to organize a regional workshop in one of the OIC member countries. The purpose of such a regional workshop will be the same as that of the national workshops (see item v(e) above), but covering mainly multinational or regional projects and investment related issues.

(vi) The Programme Sponsors will provide follow-up assistance to project sponsors in promoting their specific projects through various means including the UNIDO Investment Co-operative Programme's network of Investment Promotion Services and the Investment Promotion Information System (INPRIS); assist in contacts with financing institutions to secure required financing; and ensure that technical assistance and "programme lending" needs are communicated to the concerned financing institutions and other organizations.

Evaluation of Programme

Special evaluation questionnaires will be prepared by the Programme Sponsors in order to obtain evaluations from the Specialized Teams, participating NDFIs, and other government authorities. Each organization of the Programme Sponsors will also prepare its own evaluation of the Programme.

Programme Budget

As indicated above, this programme is intended to be implemented for groups of countries and for a specific industrial branch for each group. Each programme unit will therefore cover a specific group of countries (e.g., five) and a specific industrial branch. The cost of the first programme unit covering a specific industrial branch will always be higher than the cost of subsequent programme units covering the same industrial branch but a different group of OIC member countries. This is due to the fact that most of the documentation prepared for the first unit can be used for subsequent units without, or with very small additional costs.

The budget items given below are for the first programme unit and five OIC member countries covering one specific industrial branch such as fruits and vegetables processing:

(i) Preparation of substantive documentation, described under item (iv), page 9 above .....

(ii) Honorarium for national specialized teams 5 x 3 x $ 1,000 .....

(iii) Two experts from 1st group NDFIs (salary, travel and DSA) - 2 x 4 man/month .....

(iv) Two international experts, to be selected from OIC countries (if required) -salary, travel and DSA 2 x 2.5 man/month .....

(v) One-way travel of national specialized teams 10 x $) .....

(vi) Travel of staff from the Programme Sponsors .....

(vii) Reports preparation .....

Inputs by Participating OIC Member Countries

OIC member countries from the 1st group will:

- Provide substantive inputs during the preparation of the substantive documentations;
- Ensure that the NTs, other participants and representatives of manufacturing enterprises attend the national workshops.
- Plan for, organize and implement the programme for the 2nd group national teams visit to first group countries.

OIC member countries from the 2nd group will:

- Provide salaries and other normal payments in the NT's home countries
- Enable each NT to complete the substantive work required to prepare the Country Paper and Projects Questionnaires:
- Provide support facilities for two international experts
- Provide all local costs for the organization and holding of the national workshop
- Pay for the air travel of the NT from home country to participating first group OIC countries.

FILE: A3
ISIC 3115

How To Start Manufacturing Industries

Vegetable Oil Milling Plant

Food and Vegetable Oil

Vegetable oil and fat resources, which are indispensable to mankind as a source of nutrient and industrial raw material, are widely distributed in the form of various oil seeds such as coconut, palm and palm kernel, etc. containing lauric acid or solid fat, and sunflower seed, linseed, etc. containing unsaturated fatty acids. These resources absorbed natural sunlight energy, together with forest products, will be a very important natural resource in the age of petroleum shortage. As these agricultural products are easy to increase production, they will be suitable raw materials also for the industry of developing countries. Soybeans of Northeastern Province/P.R. of China and saflower of India were ever transplanted in the U.S.A. on an experimental scale, but now, only after several decades, the production has occupied the top of the world. Recently growing of oil palm and increase in production of rice bran oil in rice growing countries of the world have been adopted as a measures for a food policy by the United Nations, and so there is an increase in the demand for oil milling facilities.

On the one hand peanut, sesame seed, and rapeseed contain 40 ~ 60% of oil, and so these are sometimes regarded as oil and fat themselves rather than as raw materials for oil and fat; therefore, oil milling of these raw materials can be carried out in a small scale enterprise.

The vegetable oil milling industry, in view of the conception mentioned above, has been modernized, and mills today range from huge solvent extracting plants even in developing countries with a capacity of more than 1,000 tons/day to small home – shop with only one expeller of treating capacity of less than one ton/day.

According to the government statistics of Japan, 1975, the number of oil mills which are capable of treating more than 100 tons/day of raw material is said to be 40 and the number of mills which are capable of treating less than 10 tons/day is said to be 65. The medium and small scale plants were originally developed for domestic Japanese industry. These medium and small size plants, compared with the large scale plants developed in Europe and the U.S.A., match the demand of developing countries, and many presses have been exported for a long time. These presses have being used in developing countries.

Identification of Equipments in Facilities, not including Refining Unit

Depended upon the scale and method, equipments in oil milling facilities can be roughly identified as shown in Fig. 1.

Of the various methods diagrammed above, the oil in seed which has high content of oil can be extracted almost completely by mechanical method of pressing, especially by the continuous press (expeller or screw press). In order to lighten the load of the press, however, there is the prepress solvent process. On the one hand, direct extraction by solvent would be economical for raw materials such as soybean and rice bran which have oil content of approximately 20%. The various methods will be explained below.

Expeller

The expeller method which is suitable for seed which has high content of oil ranges from large size machines with a driving power of 600 HP and a treating

Fig. 1: Vegetable Oil Milling Facilities

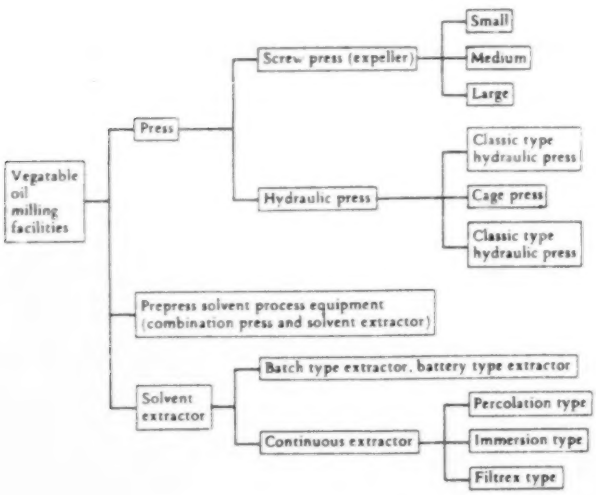
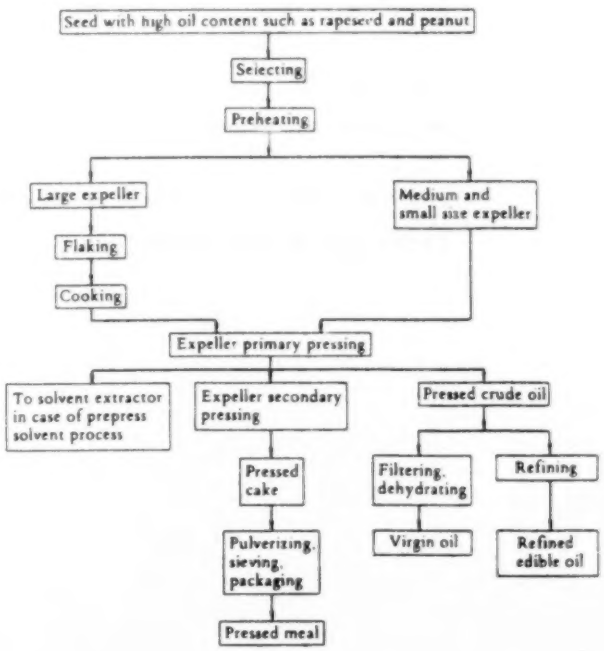


Fig. 2: Flow Sheet for Pressing Process



capacity of 460 tons/day to portable type machines with a treating capacity of 1 ton/day. Compared with the hydraulic press, such as the cage press, the expeller can work continuously, and automatically for labour saving. The yield is high, too, and so it is a representative expeller machine. Double type and Two-step type are being manufactured even for small machines; the oil yield has improved and operation has been simplified.

Cleaning, crushing, flaking, and cooking are adopted as pretreatment of pressing the seed. Fine grain like rapeseed is fed into the expeller without flaking after heating treatment, and so the simplicity of the process has been accepted warmly by users of medium and small size machines. Other features of a small size expeller are handy construction, easy to handle, practicability of simple maintenance, easy to carry around, and not costly. The heretofore weak point of wear has been rationalized by using high chrome steel for the revolving parts and frictional parts. The oil cake is produced in thin layer, and is charged into the extractor directly as it is discharged from the expeller. The temperature of the machine during operation will seldom rise up to the point of deterioration the oil. It will take a long time for a large size expeller to reach the normal operating state, but the warming-up time of a medium size or small size machine will become shorter. Therefore a medium size or small size machine will be favourable for a plant which must operate only during the daytime or intermittently. It is not uncommon for a large size machine to operate continuously, day and night, for more than a month. In such large scale industrial operation, a large size machine will of course be more favourable than a medium size or small size machine.

As to the oil extration by the expeller, the oil remaining in the oil cake will be less than 5% in the case of a two-stage press. The profitability in oil milling is swayed by the raw material cost and oil milling capacity as well as conditions of the supply of raw material and the marketing for the finished product. Therefore, even expeller pressing alone of seed with high oil content in a large scale plant would produce profitability which is comparable with or which might be higher than prepress solvent process which leaves less remaining oil content.

Cost of Expeller

The cost of expeller ranges from less than a million yen of portable type machine to more than 10 million yen of large size type machine.

In case an ancillary facility like refining unit of crude oil which has a scale merit is added to a small expeller with a treating capacity of 10 tons/day of oil seeds by using motor instead of any gas or oil engine which is often used in rural community, the cost of facilities will rise to 100 million yen. If production is to be limited to virgin oil, however, 10 million yen will be sufficient. The cost of a plant with special expeller or a palm oil milling plant which requires special pretreatment facilities for sterilization may run up to 400 million yen for a capacity of 10 ~ 20 tons/day.

Under the present conditions in Japan, the export of expeller is performed usually accompanied extracting facility; the expeller is rarely exported alone.

Prepress Solvent Method Oil Extraction Equipment

Prepress solvent method is carried out in order to reduce the remained oil in the pressed cake of seed with high oil content to less than 1%. The oil milling cost, in proportion to the expeller method, will be low. That is to say, an oil cake is made, which has been lightly pressed in the prepress step so that there will be approximately 15% remained oil, then the remaining oil is completely drawn out in the extraction step. Generally, the remained oil will be less than 1/10 of the oil in the original pressed cake.

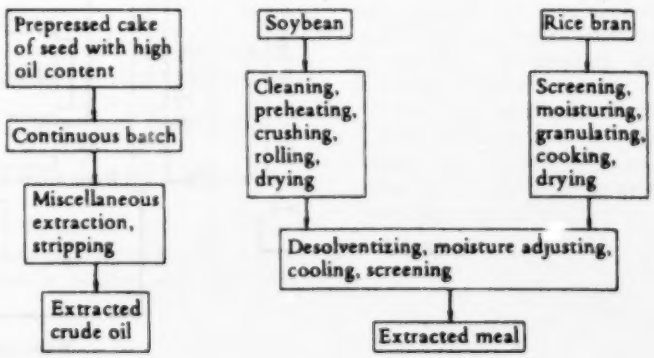
Except for the capacity, the extracting facilities of the prepress solvent method correspond to the direct solvent extracting facilities. From the standpoint of labour, the direct solvent extracting process for seed with high oil content is gradually replacing the prepress solvent process. When deciding which method should be selected, the important point to consider will be the profitability from the standpoint of running cost and initial cost. Both compressor and solvent extractor would be required for the prepress solvent method, so the high cost of facilities would be a heavy burden to small capacity plants. The burden, however, could be lightened by simplifying the facilities; thus, the initial cost would drop. That is to say, a simple unit has been designed, in which pressing and extraction could be considered as one unit. Therefore a prepress solvent method unit, including a refining unit, could be constructed for less than 200 million yen.

The quality of crude oil obtained by solvent extraction in the prepress solvent process is generally inferior to crude oil obtained by the press method, and so the oil is not suitable for manufacturing virgin oil. Moreover, the oil becomes edible only after going through the regular refining process. In order to install and operate it, some considerable amount of expense will be required even for a small size plant.

Solvent Extractor Facilities

A vegetable oil milling plant of ordinary scale usually adopts the solvent extraction process. Soybean, rice bran with low oil content, and the pressed

Fig. 3: Flow Sheet for Solvent Extraction Process



cake of seed with high oil content are mainly extracted by this process. (See flow sheet, Fig. 3)

In the method of extraction, there are batch system, the battery system, and the continuous extraction method.

The most simple batch method, which is also called the fixed method, consists of one to four extractors. There is a simplified version for medium and small scale enterprise which can be had cheaply and which is suitable for intermittent operation.

The battery system has one line of four to eight extractors, and is operated semi-continuously. Like the batch system, manual operation of the valve during processing is necessary.

In the continuous extraction method, manual operation of valves during processing is quite unnecessary, and so there is no trouble such as explosion of solvent due to mishandling by the operator. Also, labour saving and enlargement of the system become easy – the capacity has now expanded to 4,500 tons/day. On the one hand, the cost of equipment of small continuous extraction plant will be relatively high; accordingly, the batch system may be rather preferable for such an operation to make products at low manufacturing cost. The flow sheet (Fig. 4) of a small size batch plant which has been developed exclusively by Japanese technology and a medium size continuous extractor (Fig. 5) are given below.

When establishing a solvent extractor unit the investment in facilities corresponded to the production capacity, and the unit consumption of raw material and utilities should be carefully studied. Since the scale merit in the initial cost of a continuous extractor is large, miniaturizing of the unit is unfavourable. From the standpoint of unit consumption of raw material and utilities, intermittent operation will impede the superiority of continuous extraction. The greatest difference in these two operational conditions is less man hour in the continuous extraction, but this merit will dwindle in areas where wage is cheap. A comparison of the unit consumption of raw material and utilities of the prepress solvent process and the direct solvent extraction process which was published in J. Am. Oil Chem. Soc.. 1976 is shown in Table 1 below.

The weight of equipment cost which is not shown in the table is heavy for a small size plant, and the batch system seems to be most favourable for areas where the wage is low.

It might be advantageous to procure the know-how or import the design from the plant maker, put more weight on local made unit of machineries in order to over' the disadvantage of exchange rate, and to bring in the operating technique from the oil milling plant. Examples can be seen in the import of oil milling plants into Japan.

At present exports from Japan are

Fig. 4: Process Flow Sheet for Extracting Oil, Small Size Batch System

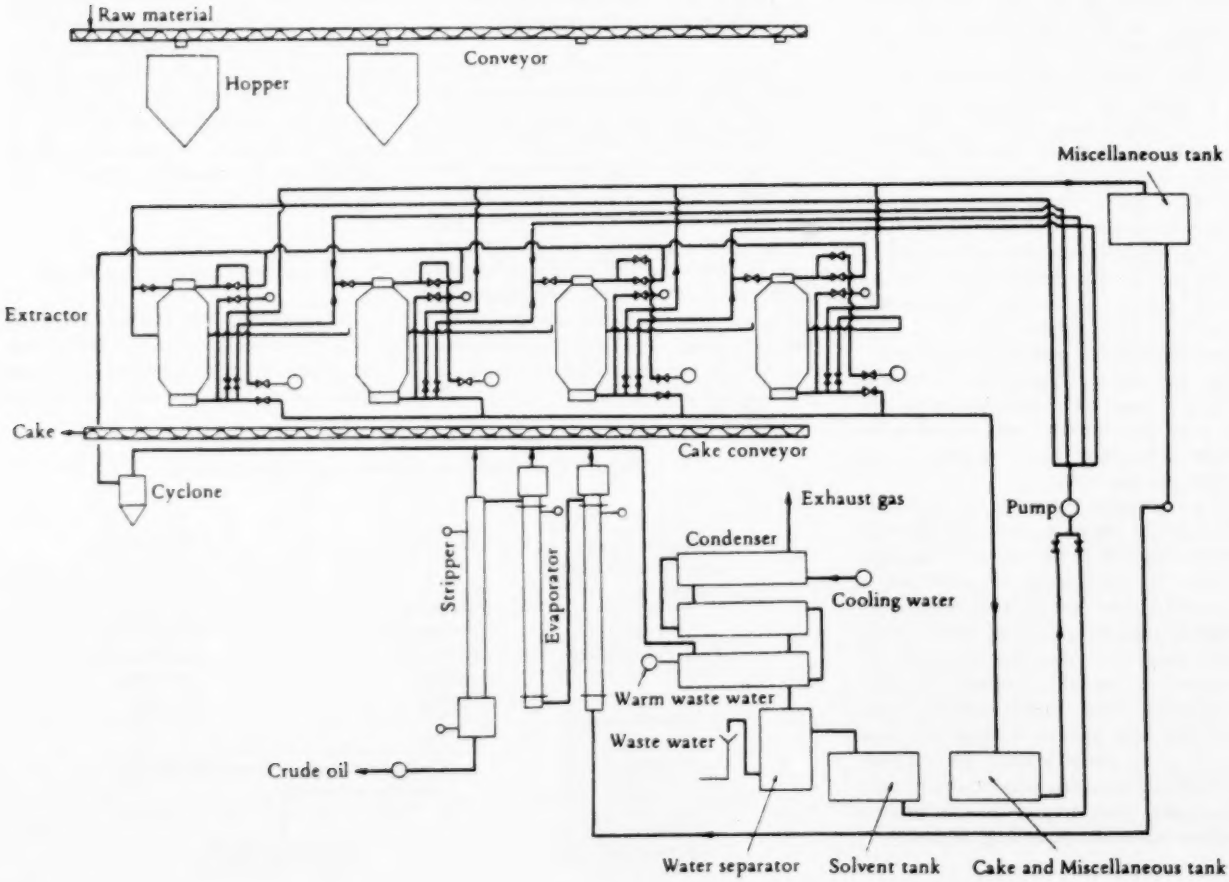


Table 1: Unit Consumption of Raw Material and Utilities in Extracting Seed with High Oil Content

Consumption per ton of raw material	Method of oil milling			
	Press	Prepress solvent process		Direct solvent extraction process, including cleaning and flaking of seed
	Expeller	Batch extraction method	Continuous extraction method	
Steam, kg	30	700	280	290
Electric power kWh	1.0	45	55	29
Water, m^3	nil	14	12	15
n-hexane, kg (liter)	–	5 (7.7)	4 (6.2)	4 (6.2)
Labour, man-hour	0.2	0.8	0.5	0.2

mostly continuous extraction plant of large capacity besides expeller of small capacity, and most of the continuous extraction plant with or without refining unit are the percolation type. Some immersion type are exported too, but small size continuous extractors are rarely exported.

The approximate cost of extraction unit in each system with a capacity of 30 tons/24 hours, in FOB, Tokyo is as follows:

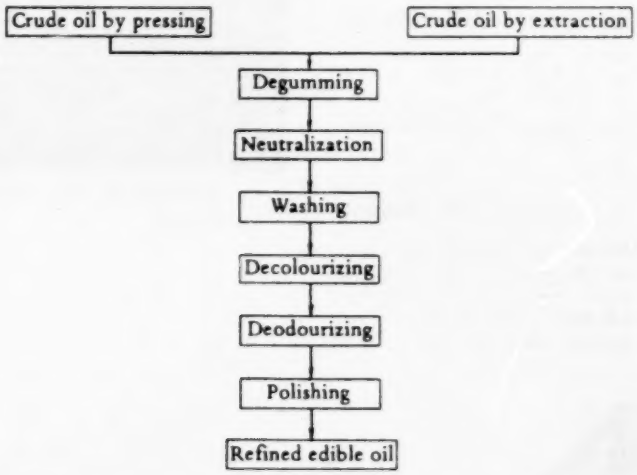
Batch system extraction unit . . . . . $US 571,000

Continuous extraction unit . . . . . $US 952,000

Refining Unit of Oil and Fat

The crude oil manufactured from the raw materials mentioned above is consumed as virgin oil. It becomes refined edible oil only after going through the refining process, which includes vacuum deodourization. The refining process is shown in the flow sheet, Fig. 5.

Fig. 5: Flow Sheet for Refining Process



Note: (1) As for as dewaxing of rice bran oil and cotton seed oil is concerned, it is carried out at an about middle stage between the degumming process and the polishing process.

(2) The byproduced soapstocks of the neutralization process will be hydrolysis to produce fatty acid.

(3) In steam refining the free acid is eliminated by vacuum distillation not by alkali.

(4) The method of using solvent such as n-hexane in the neutralization process and degumming process is quite modern and is applied to large scale plants, but it is not always applied to medium and small scale plants.

Sometimes the refining process is limited to simple physical treatment such as heating and filtering, but in regard to the refining of superior quality of crude oil generally the cake in oil is separated by centrifuge, decolourization is done by active clay, and steam deodourization is also done at high temperature in vacuum up to 5 mmHg.

Cost of Plant

A refining unit bears a large scale merit; a unit cost a treating capacity of 5 ~ 10 tons/day of crude oil is approximately 100 million yen, FOB, Tokyo, and is comparatively higher than a large scale unit. Even if the tanks and vessels are manufactured domestically the cost will run up to more than 70 million yen. Moreover if a solvent separation unit and a purification unit are to be added, an additional 50 million yen would be required for each.

As to the technical know-how and training of operators when exporting an oil milling plant, the plant maker will ordinarily be responsible, in accordance with the contract, to ask the cooperation of a presently running oil milling plant in Japan.

Locational Condition

When establishing the plant the site should be selected so that raw material would be easily aquired, and the area should be the center of distribution and consumption of the finished goods.

In Japan electric motors are usually droven by 200 V (50 or 60 hertz) and 100 V (50 or 60 hertz) for lighting, but for overseas projects the voltage and hertz of electricity should be decided depended on the specification of the country concerned.

An oil milling plant with a treating capacity of 30 tons/day of raw material would require 500 KVA of electricity, 600 tons/day of cooling water (below 25°C), 80 tons/day of boiler feed water, 7 tons/day of drinking water, and 8 kℓ/day of fuel oil.

150 ℓ/day of n-hexane will be consumed, assuming that the solvent loss would be 5 ℓ/ton of raw material. Some chemicals, such as caustic alkali would be required too.

Table 2: Standard Yield of Oil and Fat from Raw Seed

Raw material	Oil content %	Oil yield %	Cake yield %	Total yield %
Rapeseed	40.0	38.0	56.0	94.0
Peanut	48.0	46.0	50.0	96.0
Cotton seed	20.0	18.9	51.0	69.9
Kapoc seed	22.0	21.0	73.0	94.0
Copra	66.0	64.0	33.0	97.0
Soybean	19.0	17.7	77.0	94.7

Note: These figures have been approved by industrial circles of oil and fat in Japan.

Table 3: Rough Estimate of the Oil Milling Plant

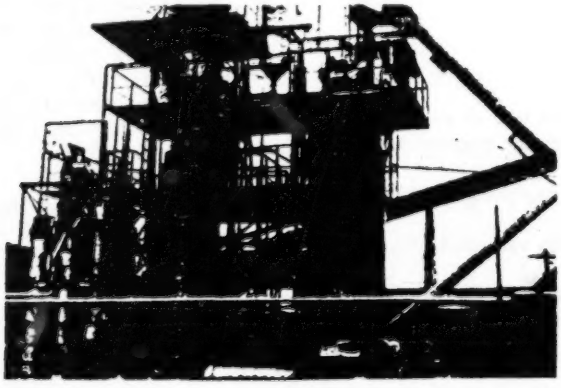
Component unit	Seed treating capacity	FOB price (approx.)
Mechanical press unit (expeller for rapeseed, sesame seed, etc.)	30 tons/24 hrs.	$US 167,000
Solvent extraction unit, batch system	30 tons/24 hrs.	$US 571,000
Continuous extraction unit	30 tons/24 hrs.	$US 952,000
Refining unit (without solvent)	10 tons of oil/24 hrs.	$US 476,000

Note: Combination of component unit to build each milling plant corresponded upon the object.

Table 4: Case 1, Case 2 and Case 3 respectively

Case 1:	Mechanical press unit, batch system Solvent extraction unit, batch system Refining unit FOB price of machinery and equipment	(approx.)	$US 1,214,000
Case 2:	Mechanical press unit, batch system Continuous extraction unit Refining unit FOB price of machinery and equipment	(approx.)	$US 1,595,000
Case 3:	Solvent extraction unit, batch system Refining unit FOB price of machinery and equipment	(approx.)	$US 1,048,000
*Case 4:	Refining unit, alone capacity 10 tons of oil can be treated/24 hrs. FOB price of machinery and equipment	(approx.)	$US 476,000

Note: Mark in* shows, only a refining unit is the aim in plant construction. Tables 5 and 6 show respectively the manpower and plant site area required in each case of Case 1 to Case 3.



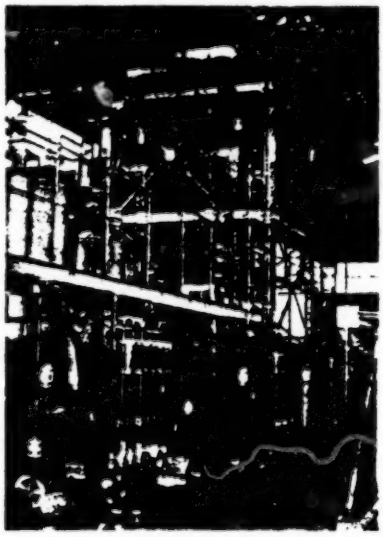
Continuous extractor for rice bran

Table 5: Required Manpower

Item	No.
(Working hours: 24 hrs./day)	
Engineer	2
Worker	8
Odd job man	5
Total	15

Table 6: Required Area for Plant Site

Item	
Building	1,000 m^2
Land	10,000 m^2



Vegetable oil refining unit

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